CITY OF MANCHESTER.

REPORT

ON THE

Health of the City of Manchester,

1933

BY

R. VEITCH CLARK, M.A., M.B., Ch B., B.Sc., D.P.H.

Digitized by the Internet Archive
in 2017 with funding from
Wellcome Library

https://archive.org/details/b29785546

Public Health Office,
Sunlight House,
Quay Street,
Manchester, 3,
23rd October, 1934.

My Lord Mayor, Aldermen,
and Members of the City Council.

I have the honour to submit my Report on the health of the city for the year 1933.

The report is arranged so that information on any specific section can be readily obtained.

Some of the principal vital statistics for the year are :—

Population.

The estimated population to the middle of 1933 is 771,165, of which 363,345 are males and 407,820 females.

Marriage Rate.

The marriage rate for the year was 16·7. This is an increase of 0·7 over the previous year, but 0·2 lower than the average of the last five years.

Birth Rate.

The birth rate was 14·4—the lowest recorded.

Death Rate.

The death rate of 13·4 was slightly higher than that of the previous year but is lower than the average of the last five years—which is 13·7.

Infantile Mortality.

This rate, 74·9 per 1,000 births, is the lowest recorded and is 12·3 per 1,000 births lower than the average of the past five years.

Maternal Mortality.

The maternal mortality rate, 4·87, shows an increase of 0·81 on the average of the past five years. Of the causes of maternal mortality the puerperal fever rate of 1·45 shows a decrease of 0·16 on the average of the last five years; that part of the rate due to the other fatal complications of childbirth is 3·42—an increase of 0·97 over the previous five years, average.

Cancer.

The cancer death rate of 1·52 is a reduction on the previous year of 0·12 and is slightly lower than the average of the last five years—which is 1·53.

Housing.

Two important aspects of this work call for special comment.

The first of these (pages 252 to 262) deals with the initiation of the slum clearance activities under the Housing Act, 1930. The only area represented during the year was the Hulme Clearance Area. Details of this are given sufficiently in the text of the report and it is only necessary here to direct the attention of the City Council to the very large amount of work entailed departmentally, not only in the Public Health Department but in the Town Clerk's and City Treasurer's Departments and the Housing Department, in connection with each such representation. The numerous issues which have been raised in connection with the Hulme area have gone far to clarify the position of the administrative work to be undertaken under these sections of the Act. The organisation of the staff approved by the City Council for the purposes of the Act has proved efficient during the year dealt with in this report.

The second issue is that of "farmed" houses. "Farmed" houses are actually one section of houses-let-in-lodgings. The term "farmed" houses is not a description recognised in law. It means in practice a house-let-in-lodgings by a non-resident owner or tenant. A general idea of the conditions existing in the city in such "farmed" houses is to be obtained from the special report on this subject appearing on pages 317 to 320. It is, however, of importance to observe that the practice of "farming" houses in this manner is undoubtedly on the increase and there is no possible method of learning when any house is so "farmed" other than by repeated house-to-house inspection. In other words, the law does not provide the local health authority with any ready means of ascertainment. The only real and effective method would be to make it obligatory upon any person proposing to "farm" houses to notify the local health authority of his intention before so doing. This would be a measure of extreme value in local government, and it is of importance to note that during the current year (1934) the Public Health Committee has recommended that such legal requirement should be imposed.

HOSPITALS.

The sections devoted to Monsall Hospital, Baguley Sanatorium, and Abergele Sanatorium contain detailed accounts of the activities of these establishments which enable an accurate knowledge of their use and work to be attained by the reader.

The report of the work in the transferred hospitals is as complete as available information permits. There will, however, be a much fuller classification of diseases and patients available for the report for the year 1934. With this new knowledge it will be possible gradually to control, to a much greater degree than hitherto, the user of the general municipal hospitals.

Attention is directed to the account of the work done at Abergele Sanatorium, which is one of especial interest inasmuch as the new establishment there for children has now been in active operation for two-and-a-half years and is beginning to show the real possibilities and value of the curative and preventive work being done amongst the children. The report is of remarkable interest. The tables show the high percentage of children who are restored to normal activity. There is every reason to believe that this restoration will be permanent unless the child is subjected to unusually severe risks in its future life. It is gratifying to be able to report in this manner; since, while the type of work done in other places has shown conclusively the great possibilities of the modern treatment of tubercle in children, the City Council may now be assured by actual proof of the wisdom it exhibited in establishing this special sanatorium for children in such advantageous environmental circumstances. This report would have been much more complete and convincing had illustrations and charts been used more freely and it is only the desire to reduce as far as possible the cost of publication that has caused these to be eliminated. The report gives in the most concise way the clinical, scientific, educational, and social work which is being carried out in what constitutes a practically complete unit for combating this disease in childhood.

CANCER.

The special report given on pages 321 to 333 contains probably the most striking publication of the year in health matters. This specific activity stands alone inasmuch as it is a record of eight years highly concentrated research work pursued to a most successful conclusion. The report itself gives a sufficient account of how the Manchester Committee on Cancer came to be formed and of the part taken by the city in its formation, along with hospitals and other bodies interested in cancer in Manchester. The research work has been directed mainly towards the discovery of a method of preventing the onset of cancer amongst mule spinners and other workers who have had to use cancer-producing mineral oils. The result is a brilliant example of preventive research, and there is no doubt but that if the use of mineral oil as a lubricant in cotton spinning is limited in future to those oils which have been demonstrated by Dr. C. C. Twort (Director of the Cancer Research Laboratories) to be humanly speaking safe, the incidence of cancer in the cotton areas should fall to the normal level of the rest of the population. This is, so far as we know, the only true preventive work that has ever been done in relation to malignant disease capable of practical application in life with a prospect of success. Nothing could be more gratifying to the individuals who subscribed to maintain these laboratories or to those who have been concerned, either as the governing committee or more directly as the scientific workers in the laboratory, than the successful conclusion which has been reached.

I have the honour to be,

Your obedient Servant,

R. VEITCH CLARK,

Medical Officer of Health.

STATISTICAL.

The following are general statistics for the year 1933:—

Area of the City in acres			27,257
Census population for the year 1931	Males	360,976	766,378
	Females	405,402	
Estimated population at the middle of year 1933	Males	363,345	771,165
	Females	407,820	
No. of persons per acre			28
Persons married per 1,000 of population in the area of the Manchester Union			16·68
Live Births in the City of Manchester	Males	5,558	11,116
	Females	5,558	
Live birth-rate per 1,000 of population			14·41
Still-births	Males	318	582
	Females	264	
Deaths	Males	5,253	10,341
	Females	5,088	
Recorded annual death-rate per 1,000 of population	Males	14·47	13·41
	Females	12·49	
Deaths under 1 year of age per 1,000 births			74·93
Excess of registered births over deaths			775
Percentage of mortality occurring in public institutions			47·83

No. of occupied Structurally Separate Dwellings at the Census in April, 1931		177,430
No. of persons per occupied Structurally Separate Dwelling (Census 1931)		4·32
No. of persons per house 1933 (Based on 193,031 houses connected with the water supply within the City)		3·99
No. of new houses erected during 1933:—		
By Local Authority	3,341	
By other bodies or persons	1,244	
		4,585

PUBLIC HEALTH OFFICERS.

(A) MEDICAL.

Medical Officer of Health	R. Veitch Clark, M.A., M.B., CH.B., B.SC., D.P.H.
Senior Assistant Medical Officer of Health	W. St. Clair McClure, M.R.C.S., L.R.C.P., D.P.H.
Assistant Medical Officer of Health ..	J. S. Taylor, M.D., D.P.H.
Senior Tuberculosis Officer	D. P. Sutherland, M.B., B.S.

Assistant Tuberculosis Officers	4
Medical Officer, Tuberculosis (part time)	1

Assistant Medical Officer of Health—(Maternity and Child Welfare) ..	Nora F. Smith, M.B., B.S., D.P.H.

Medical Officers, Child Welfare Centres	8
„ „ „ „ (part-time)	7
Dental Surgeons (part-time)	2

Abergele Sanatorium.

Medical Superintendent—J. E. Geddes, M.D., CH.B.

Two Assistant Medical Superintendents.

Baguley Sanatorium.

Medical Superintendent—H. G. Trayer, B.A., M.B., CH.B., D.P.H.

Three Assistant Medical Officers.

Monsall Hospital.

Medical Superintendent—D. S. Sutherland, M.D.

Four Assistant Medical Officers.

Booth Hall Hospital.

Medical Superintendent—J. T. D'Ewart, M.B.

Five Assistant Medical Officers.

Withington Hospital and Institution.

Medical Superintendent—M. Gamble, M.B.E., M.D.

Six Assistant Medical Officers.

Crumpsall Hospital and Institution.

Medical Superintendent—W. A. Ramsay, M.A., M.D.

Five Assistant Medical Officers.

Langho Colony.

Medical Superintendent—J. Shearer, M.B., CH.B.

In addition, there are the consulting staffs of these various hospitals.

District Medical Officers under Poor Law Acts	28	Chiefly combined appointments.
Public vaccinators	27	

(B) OTHERS.

Veterinary Surgeon—Richard C. Locke, M.R.C.V.S., D.V.S.M. (VICT.).
Public Analyst—Harri Heap, M.SC., F.I.C.
„ (Assistant)—Alfred N. Leather, B.SC. (LOND.), F.I.C.

Sanitary Inspectors.

Chief—Isaac Priestley, M.R.S.I., M.S.I.A	1
Divisional	2
Senior Housing	1
Housing	6
Special to the Medical Officer of Health	2
Drainage	2
Food and Drugs	3
Smoke	4
Rat Officers	2
Canal Boats	1
Milk Control	3
House Drainage	2
District	46
Rag flock, and floating	1
Houses let in Lodgings	4
Women, Workshops, etc.	2
Total	82

Maternity and Child Welfare.

Superintendent of Health Visitors	1
„ „ (Assistant)	1
Inspector of Midwives	1
„ „ (Assistant)	1
Midwives	4
Ophthalmic Nurses	3
Centre Superintendents	14
Health Visitors	60
Cleansing Nurse	1
Masseuses	8
Total	94

Tuberculosis.

Sanitary Inspectors	3
Nurses	13

Vaccination Officers	4

CITY OF MANCHESTER (299, OLDHAM ROAD)—METEOROLOGY, 1933. (Means of the Monthly Readings.)

	Barometer	Dry Bulb	Wet Bulb	Humidity	Maximum Temperature	Minimum Temperature	Mean Temperature in Shade	Sun Maximum	Grass Maximum	One Foot	Four Feet	Total Rainfall (inches)	Total No. of Wet Days	Total Hours of Sunshine	Average Mean Daily Temperature 1881-1915 (extracted from the book of normals)	Average Rainfall 1892-1933	Average Hours of Sunshine 1892-1933	Fog Noted
January	30·099	37·5	36·2	88	41·8	35·0	38·4	53·1	32·8	38·3	44·1	2·17	16	13·8	39·1	3·11	11·1	9th. 10th. 11th. 12th. 13th, 17th, 19th. 23rd. 25th. 26th
February ..	29·884	39·2	37·8	87	44·3	36·6	40·5	65·8	34·4	37·9	41·6	3·20	19	52·4	40·1	2·40	30·3	13th, 15th, 20th.
March	29·872	44·8	42·4	82	53·7	40·3	47·0	83·0	37·6	42·3	42·9	2·92	16	104·6	42·3	2·39	74·0	12th, 13th, 26th, 27th, 28th, 29th.
April	30·082	48·7	45·7	78	55·4	43·6	49·5	87·3	40·9	47·2	46·2	1·18	13	93·1	46·8	1·97	113·8	7th.
May	29·949	54·8	51·4	78	61·8	49·4	55·6	95·7	46·8	53·3	50·3	1·29	18	114·4	52·6	2·36	142·6	
June	29·855	63·3	57·4	70	70·2	54·8	62·5	110·2	51·2	62·3	57·3	3·02	14	174·6	58·4	2·41	152·5	
July	29·987	65·2	60·7	77	73·1	58·2	65·7	112·5	52·6	63·9	60·3	2·44	13	160·4	60·8	2·99	138·3	
August	30·015	63·9	58·7	72	72·0	58·5	65·3	110·3	54·4	64·6	62·2	1·36	16	154·4	59·9	3·66	119·0	
September ..	30·060	60·0	55·8	76	68·3	54·2	61·3	100·9	48·1	61·5	62·2	1·29	8	159·9	56·4	2·61	99·1	
October	29·880	51·2	48·4	81	55·3	46·7	51·0	80·7	42·1	53·1	57·6	4·53	20	48·9	49·8	3·46	56·0	
November ..	29·963	42·6	40·8	86	46·3	40·1	43·2	57·9	35·2	44·3	50·7	1·33	16	16·0	43·6	3·00	18·2	5th, 6th, 7th, 11th. 12th, 13th, 14th, 20th, 22nd, 23rd, 26th. 27th.
December ..	30·188	37·0	35·4	85	40·0	34·4	37·2	47·7	31·1	37·6	44·9	0·43	12	9·8	40·4	3·35	6·9	5th, 6th, 11th. 14th. 15th, 16th, 17th, 18th, 19th, 20th, 21st, 31st.
YEAR ..	29·986	50·7	47·6	80	56·9	46 0	51·4	83·4	42·3	50·5	51·7	25·16	181	1102·3	49·2	33·71	961·6	

The extent to which Institutions are used is to some extent represented in the following table :—

TABLE 1.

DEATH-RATES IN THE HOMES OF THE PEOPLE AND IN INSTITUTIONS FOR 5 YEARS 1929–1933.

YEAR	Estimated Populations to middle of Year	Death-rate per 1000 of persons dying in their own homes	Death-rate per 1000 of persons dying in Institutions	Total death-rate per 1000
1929	761,813	8·93	6·58	15·51
1930	764,070	6·97	6·10	13·07
1931	766,378	7·4	6·5	13·86
1932	768,745	6·2	6·8	13·03
1933	771,165	7·0	6·4	13·41

The chief causes of death are shown below for each of the years 1928–1933 :—

TABLE 2.

	1928	1929	1930	1931	1932	1933
Tuberculosis of the Lungs ..	843	930	903	855	770	773
Tuberculosis (other forms)	149	152	174	132	126	114
Diseases of the Heart	1155	1540	1398	1642	1747	1961
Cerebral Hæmorrhage, Apoplexy, Hemiplegia	426	456	426	494	449	362
Pneumonia	905	1305	879	1010	905	841
Bronchitis	835	1029	661	866	531	551
Digestive Organs	351	346	354	337	354	361
Atrophy, Debility (chiefly in infants)	36	40	55	45	28	22
Old Age	362	469	378	416	361	353
Premature Birth	250	270	252	231	229	227
Nephritis and Bright's Disease ..	338	296	319	311	289	261
Convulsions	44	44	32	34	44	21
Inflammation of the Brain ..	37	46	36	17	25	25
Diarrhœa and Dysentery	203	185	153	151	116	97
Measles	123	60	146	65	122	48
Scarlet Fever	14	11	16	8	18	16
Whooping Cough	89	220	37	86	80	47
Diphtheria	99	57	58	60	80	85
Influenza	175	704	129	340	181	536
Malignant Disease	1107	1135	1153	1240	1258	1175

TABLE 3.

Gains and Losses in 1933 per 1,000 persons living, as compared with the average for the 10 years 1923–1932.

Gains.

Scarlet Fever	0·01
Measles	0·13
Whooping Cough	0·10
Diarrhœal Diseases	0·11
Puerperal Fever	0·01
Phthisis	0·12
Tubercular Meningitis	0·03
Tubercular Peritonitis: Tabes Mesenterica	0·02
Tubercular Diseases (other)	0·02
Premature Birth	0·05
Nervous Diseases	0·07
Bronchitis	0·58
Pneumonia	0·18
Old Age	0·05
Total	1·48

Losses.

Influenza	0·30
Diphtheria	0·01
Cancer	0·05
Diseases of the Heart and Blood Vessels	0·86
Digestive System	0·01
Respiratory Diseases (other)	0·03
Total	1·26
Balance of Gains from above Causes	0·22
” ” all Causes	0·23

INFANTILE MORTALITY.

TABLE 4.

Deaths per 1,000 *births at the ages* 0–2 *months,* 3–5 *months, and* 6–11 *months in successive years.*

YEARS	Months of Age			
	0–2	3–5	6–11	Under 1 year
1891–1895 (mean) ..	82·79	40·99	62·97	186·75
1896–1900 (mean) ..	83·44	42·43	66·28	192·16
1901–1905 (mean) ..	81·02	37·52	54·24	172·78
1906–1910 (mean) ..	73·89	29·12	44·27	147·28
1911–1915 (mean) ..	69·23	24·38	39·26	132·88
1916–1920 (mean) ..	58·46	17·72	28·65	104·82
1921–1925 (mean) ..	52·46	15·63	27·38	95·45
1926–1930 (mean) ..	49·77	15·76	22·33	87·86
1926	49·14	14·62	22·86	86·62
1927	48·62	13·84	23·31	85·77
1928	50·97	17·51	22·39	90·87
1929	52·10	18·03	27·17	97·30
1930	48·02	14·78	15·93	78·73
1931	50·61	13·31	19·92	83·84
1932	51·80	14·05	19·56	85·41
1933	48·93	11·25	14·75	74·93

Table 5 allows a comparison with former years in respect of the infantile mortality rates from different causes for the whole of the first year of life.

Table 5.

City of Manchester.

CAUSES OF DEATH	DEATHS UNDER ONE YEAR PER 1,000 BIRTHS					
	1928	1929	1930	1931	1932	1933
All causes	90·87	97·30	78·73	83·84	85·41	74·93
Smallpox	..	..	..	..	..	..
Chickenpox	0·08	..	..	0·08	0·42	..
Measles	3·64	1·38	3·00	0·90	2·20	0·63
Scarlet Fever	..	..	..	0·08	..	..
Whooping Cough	3·33	5·76	1·53	2·29	2·62	1·62
Diphtheria	1·08	0·77	0·23	0·49	0·25	0·09
Erysipelas	0·08	0·15	0·46	0·33	0·42	0·45
Tuberculous Meningitis	0·39	0·77	0·38	0·73	0·42	0·09
Abdominal Tuberculosis	0·23	0·15	0·15	..	0·08	0·18
Other Tuberculous Diseases	0·39	0·15	0·69	0·33	0·25	0·54
Meningitis (*not Tuberculous*)	0·70	0·92	0·77	0·65	0·59	0·27
Convulsions	2·71	3·07	2·14	2·12	3·30	1·80
Bronchitis	7·05	5·83	5·44	5·88	3·81	3·42
Pneumonia (all forms)	16·11	20·18	11·33	15·59	16·40	13·58
Diarrhœa and Enteritis	13·24	12·35	10·57	10·86	8·63	7·83
Gastritis	0·39	0·77	0·77	..	..	..
Syphilis	0·54	0·54	0·77	0·65	1·19	0·54
Rickets	0·54	0·23	0·15	0·08	0·42	0·36
Injury at Birth	2·48	3·07	2·37	3·26	2·37	2·43
Atelectasis	1·70	2·15	1·76	2·04	2·62	3·06
Congenital Malformation	6·14	5·45	5·44	5·96	7·19	6·92
Premature Birth	19·36	20·72	19·30	18·78	19·38	20·42
Atrophy, Debility, and Marasmus	2·79	2·99	4·06	3·67	2·20	1·89
Overlying, found dead in bed, and suffocation	0·62	0·46	0·38	0·74	0·34	0·54
Other causes	5·97	9·44	7·04	8·65	9·76	8·19

PUBLIC ASSISTANCE.

This is shown in the table on page 10, compiled from a monthly statement furnished to the Hospitals Sub-Committee. Further particulars are given in the statement below, obtained from the Public Assistance Officer.

Cases maintained by or chargeable to the Public Assistance Committee on the 1st January, 1934.

(A) RETURN OF MENTAL CASES.

Institution	Class of Case Maintained	Suffering from Mental Infirmity
1. *Establishments*		
(*a*) *Belonging to Manchester* :—		
Crumpsall Institution	General Hospital and Lunacy	668
Swinton Home	Mentally deficient children..	99
(*b*) *Belonging to other Authorities* :—		
Garstang	Feeble-minded persons ..	Nil
Ulverston (Lancashire C.C.)..	,, ,, ..	9
West Derby (Liverpool C.B.)	Mentally deficient persons ..	2
2. *County Mental Hospitals* :—		
Lancaster	Persons of unsound mind ..	426
Prestwich	,, ,, ..	1,012
Winwick	,, ,, ..	538
Whittingham	,, ,, ..	195
Rainhill	,, ,, ..	129
Other County Mental Hospitals .	,, ,, ..	5
Sandlebridge School, Alderley Edge.	Mentally defective adults ..	5
All Souls' Special School, Hillingdon, Essex	Feeble-minded girls	Nil
Cumnor Rise Home, Botley, Oxford.		2
Stoke Park Colony, Bristol	Feeble-minded persons ..	24
Whittington Hall, Chesterfield ..		6
Pontville Home, Ormskirk	Feeble-minded boys	Nil
Durran Hill House, Carlisle	Mentally defective women ..	5
St. Joseph's Home, Sudbury	Feeble-minded young women	1
Allerton Priory, Woolton, Lancs. ..	Feeble-minded children ..	1
Royal Albert Institution, Lancaster.	Feeble-minded adults	8
	Carried forward..	3,135

RETURN OF MENTAL CASES—*Continued.*

Institution	Class of Case Maintained	Suffering from Mental Infirmity
	Brought forward	3,135
St. Raphael's Colony for Epileptics and Mental Defectives, Northan, near Potter's Bar	Feeble-minded persons ..	Nil
	Total	3,135

(B) MATERNITY CASES.

	Number
Simpson Hill..	Nil
Crossley Home	Nil
Central Hall	1
Macalpine Home	1

THE NUMBER OF PERSONS WHO WERE IN RECEIPT OF RELIEF FROM THE MANCHESTER PUBLIC ASSISTANCE COMMITTEE DURING THE LAST WEEK IN EACH MONTH OF THE YEARS 1933 AND 1932.

	1933		1932	
	Indoor	Out-door	Indoor	Out-door
January	3,921	55,894	4,004	42,547
February	3,850	54,647	4,001	42,818
March	3,727	53,402	3,884	43,196
April	3,669	53,454	3,834	43,424
May	3,643	51,777	3,696	45,032
June	3,543	52,807	3,683	43,591
July	3,566	51,035	3,710	44,658
August	3,542	51,996	3,709	45,611
September	3,542	52,897	3,720	46,760
October	3,627	52,929	3,756	48,559
November	3,672	53,970	3,841	50,351
December	3,692	55,871	3,879	53,013

TABLES

1933

TABLE A.—MANCHESTER, 1933

Causes of Death at Different Life Periods in the 52 weeks of the yea

PERSONS.—(MALES AND FEMALES.)

CAUSES OF DEATH	All Ages	Ages at Death											
		Under 5 Years											
		0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85
All Causes	10341	833	372	157	109	203	265	557	720	1210	1872	2264	1498
A.—General Diseases	3839	549	185	73	57	127	156	289	370	511	662	576	260
B.—Local Diseases	5746	251	168	64	39	60	86	223	318	647	1144	1545	1011
C.—Other Specified Dis.	...	...	...	...	...	...	...	...	...	...	...	...	...
D.—Ill-defined Diseases	402	22	1	1	...	...	...	1	5	...	12	92	204
E.—Violent Deaths	354	11	18	19	13	16	23	44	27	52	54	51	23
A.—General Diseases.													
Smallpox.. Vaccinated	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox.. Not Vaccinated	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox.. No Statement	...	...	...	...	...	...	...	...	...	...	...	...	...
Cowpox	...	...	...	...	...	...	...	...	...	...	...	...	...
Chickenpox	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	48	7	36	5	...	...	...	...	...	...	...	...	...
Rubella	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever	16	...	7	4	4	...	...	...	1	...	...	...	...
Typhus	...	...	...	...	...	...	...	...	...	..	...	...	...
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	536	10	16	2	5	21	15	44	67	94	105	80	66
Whooping Cough	47	18	29	...	...	...	...	...	...	...	...	...	...
Mumps	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria	85	1	32	36	11	...	...	...	...	1	2	2	...
Poliomyelitis	4	...	...	...	2	2	...	...	...	...	...	...	...
Cerebro-spinal Fever	22	7	5	1	1	3	...	1	1	3	...	...	...
Simple Cont: Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	2	...	..	...	...	...	...	1	...	...	...	1	...
Asiatic Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic Diarrhœa	2	2	...	...	...	...	...	...	...	...	...	...	...
Diarrhœa	91	85	9	...	...	...	...	...	...	...	...	...	...
Dysentery	1	...	...	...	...	...	...	...	...	...	1	...	...
Malarial Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
Trench Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
Actinomycosis	...	...	...	...	...	...	...	...	...	...	...	...	...
Hydrophobia	...	...	...	...	...	...	...	...	...	...	...	...	...
Glanders	...	...	...	...	...	...	...	...	...	...	...	...	...
Anthrax	...	...	...	...	...	...	...	...	...	...	...	...	...
Tetanus	...	...	...	...	...	...	...	...	...	...	...	...	...
Syphilis	38	6	1	...	...	...	...	2	4	10	11	4	...
Gonorrhœa, Strict: Urethra	9	...	...	...	...	...	...	1	1	1	4	1	1
Puerperal.. Septicæmia	7	...	...	...	...	...	1	3	3	...	...	...	...
Puerperal.. Pyæmia	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal.. Phlegmasia Dol.	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal.. *Fever*	10	...	...	...	...	...	4	5	1	...	...	...	...
Infective Endocarditis	17	...	...	...	5	1	6	3	1	...	...	1	...
Leprosy	...	...	...	..	...	...	...	...	...	...	...	...	...
Psittacosis	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	28	5	...	...	..	...	2	1	2	3	3	9	3
Septicæmia (not puerp:)	17	1	1	1	2	...	1	3	2	3	1	2	...
Pyæmia (not puerp:)	2	1	...	...	...	...	...	...	1	...	...	...	...
Phlegmon	21	4	...	1	2	1	...	2	3	5	1	2	...
Phagedæna	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Septic Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...
Tubercular Phthisis	709	2	...	3	6	66	98	145	146	134	88	17	4
Phthisis	64	...	4	...	1	2	7	14	15	12	7	2	...
Tubercular Meningitis	52	1	22	10	5	6	3	1	3	1	...	...	...
Tubercular Peritonitis	13	2	...	1	...	4	2	2	2	...	...	...	...
Tabes Mesenterica	2	...	...	...	...	...	...	1	...	1	...	...	...

TABLE A, 1933—*continued.*

CAUSES OF DEATH	All Ages	Under 5 Years: 0 to 1	Under 5 Years: 1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
	Ages at Death													
A.—General Diseases— *continued*														
Lupus	2	...	...	...	...	...	...	...	...	1	...	...	1	...
Tubercle of other organs	33	1	3	2	...	7	2	6	5	2	3	1	1	..
General Tuberculosis	12	3	1	...	1	1	...	3	1	2	...	...	...	...
Scrofula	...	...	...	...	...	...	...	...	...	...	...	..	...	...
Parasitic Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Starvation	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scurvy	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Alcoholism, Delirium Tremens	1	...	...	...	...	...	...	...	...	...	...	1	...	...
Opium, Morphia Habit	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Food Poisoning	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Industrial Poisoning: Lead	1	...	...	...	...	...	...	...	...	..	1	...	..	...
Industrial Poisoning: Phosphorus	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Industrial Poisoning: Arsenic, &c.	...	...	...	...	...	...	...	...	...	...	...	...	..	...
Rheum: Fever, Acute Rheum:	67	...	2	2	4	5	5	5	8	11	5	12	8	...
Rheumatism of Heart	21	...	...	...	3	1	3	4	2	5	3	...	...	...
Chronic Rheumatism	8	...	...	...	...	1	...	1	...	1	3	2	...	...
Rheum: Arthritis, Rheum: Gout	44	...	...	...	...	1	2	...	1	2	6	17	15	...
Gout	3	...	...	...	...	...	...	...	...	...	1	1	1	...
Cancer—Buccal Cavity	51	...	...	...	...	...	...	...	1	4	22	16	7	1
,, Digest, Oesoph, Peritoneum	618	...	1	...	...	...	2	11	41	77	185	211	83	7
,, Respiratory	127	...	...	...	...	...	1	4	8	24	53	31	5	1
,, Male and Female Genital Organs	183	...	...	...	...	...	...	2	17	48	52	49	15	...
,, Breast	114	...	...	...	...	...	...	1	5	26	38	35	8	1
,, Skin	12	...	...	...	...	...	...	...	...	1	2	4	4	1
,, Others or unspecified	70	...	1	1	3	3	...	4	8	7	13	17	11	2
Rickets	7	4	3	...	...	...	...	...	...	...	...	...	...	...
Purpura	6	...	1	1	...	...	1	1	...	...	1	...	1	...
Hæmophilia, Hæm: Diathesis	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anæmia, Leucocythæmia	96	1	1	2	...	1	1	11	8	19	26	12	14	...
Diabetes Mellitus	113	...	...	...	2	1	...	7	9	12	25	46	11	...
Other Constitutional Diseases	6	...	...	1	...	...	...	...	3	1	...	...	1	..
Premature Birth	227	227	...	...	...	...	...	...	...	...	...	...	..	...
Congenital Defects	86	77	9	...	...	...	...	...	...	...	...	...	..	..
Injury at Birth	27	27	...	...	...	...	...	...	...	...	...	...	...	..
Atelectasis	34	34	...	...	...	...	...	...	...	...	...	...	...	..
Want of Breast Milk	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Teething	2	1	1	...	...	...	...	...	...	...	...	...	...	...
Others of Early Infancy	22	22	...	...	...	...	...	...	...	...	...	...	...	..
B.—Local Diseases.														
1.-NERVOUS SYSTEM.														
Inflammation of Brain	25	3	7	2	...	1	1	3	1	5	1	1	...	...
Softening of Brain	1	...	...	...	...	...	...	...	...	...	...	1	...	...
General Paraly: of Insane	23	...	...	...	1	...	...	3	9	5	4	1	...	...
Insanity (not puerperal)	54	...	...	...	...	1	1	3	6	15	18	10	...	...
Chorea	2	...	...	1	1	...	...	...	...	...	...	...	...	..
Epilepsy	46	...	1	...	1	4	5	8	7	4	9	6	1	...
Convulsions	21	20	1	...	...	...	...	...	...	...	...	...	...	...
Laryngismus Stridulus	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Locomotor Ataxy	17	...	...	...	...	...	...	...	...	7	6	3	1	...
Dis: of Spinal Cord	23	...	...	...	1	1	...	4	1	5	9	2	...	...
Neuritis	3	...	...	...	...	..	1	...	...	1	...	1	...	..
Brain Tumour	24	...	...	1	.	...	...	3	7	7	3	2	...	.
Polio Encephalitis	1	...	...	...	...	...	...	1	...	...	...	...	...	...
Encephalitis Lethargica	19	...	1	...	...	1	2	4	3	2	2	4	...	...
Nervous System (Other Dis:)	61	1	1	3	1	4	3	5	7	7	6	18	5	...
2. DISEASES OF SPECIAL SENSE ORGANS.														
Otitis, Mastoid Disease	23	2	...	4	2	2	3	3	2	4	1	...	...	...
Epistaxis, Nose Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	
Ophthalmia, Eye Disease	1	1	...	...	...	...	...	...	...	...	...	...	..	.

TABLE A, 1933—*continued.*

CAUSES OF DEATH	Ages at Death												
	All Ages	Under 5 Years 0 to 1	Under 5 Years 1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85
3. DISEASES OF HEART.													
Valvular Dis : Endocarditis	418	...	1	4	7	8	10	35	29	78	88	92	54
Pericarditis	6	2	...	...	...	1	1	...	1	...	1	...	...
Hypertrophy of Heart	...	...	...	...	...	...	...	...	...	...	...	...	...
Angina Pectoris	118	...	...	...	...	...	...	2	3	26	46	33	7
Dilatation of Heart	48	...	...	1	...	...	...	1	4	7	13	13	8
Fatty Degen : of Heart	49	...	...	...	...	...	...	...	2	9	18	16	4
Syncope, Heart Disease	1322	...	...	4	2	3	3	6	32	103	270	457	362
4. DIS : OF BLOOD VESSELS.													
Arterio Sclerosis	497	...	...	...	...	...	...	...	3	25	84	196	158
Cerebral Hæmorrhage	326	7	1	...	...	2	1	1	5	32	83	113	74
Apoplexy, Hemiplegia	36	...	...	...	...	...	...	...	...	...	11	16	8
Aneurism	16	...	...	...	...	1	...	2	3	2	6	...	2
Senile Gangrene	16	...	...	...	...	...	...	...	...	...	4	4	7
Embolism, Thrombosis	115	...	...	...	...	...	1	1	3	8	25	53	23
Phlebitis	...	...	...	...	...	...	...	...	...	...	...	...	...
Varicose Veins	1	...	...	...	...	...	...	...	...	...	...	1	...
Blood Vessels (Other Diseases)	38	...	...	...	...	...	...	1	1	3	7	17	8
5. DIS : OF RESPIRATORY SYS :													
Laryngitis	1	...	...	...	...	...	...	...	...	...	...	...	1
Memb: Laryng: (Not Diphth:)	...	...	...	...	...	...	...	...	...	...	...	...	...
Croup	...	...	...	...	...	...	...	...	...	...	...	...	...
Larynx (Other Dis :)	1	...	...	...	...	...	...	...	...	1	...	...	...
Bronchitis	551	38	8	...	1	1	2	5	19	61	111	144	132
Pneumonia { Lobar-Croupous.	346	17	15	11	8	7	12	35	54	72	63	39	13
Broncho-Lobular.	465	133	105	11	2	1	4	14	26	28	45	61	26
"*Pneumonia*"	30	1	2	1	...	1	2	1	2	7	5	3	4
Emphysema, Asthma	41	...	...	...	...	...	...	1	8	7	14	7	3
Pleurisy	13	...	1	...	...	1	...	...	1	2	4	4	...
Fibroid Disease of Lung	4	...	...	...	...	...	...	1	...	1	2	...	...
Respiratory Dis: (Other)	69	...	...	...	...	2	2	1	1	5	7	18	29
6. DIS: OF DIGESTIVE SYS:													
Tonsillitis, Quinsy	19	...	2	1	1	3	...	3	...	4	2	3	...
Mouth, Pharynx	2	...	...	...	...	...	1	...	...	1	...	...	...
Gastric Ulcer	71	...	...	...	...	...	1	5	11	20	19	12	3
Gastric Catarrh	...	...	...	...	...	...	...	...	...	...	...	...	...
Stomach (Other Dis:)	10	3	...	..	...	...	...	...	...	...	1	3	2
Enteritis	19	...	7	...	1	...	1	2	...	...	2	2	4
Gastro-Enteritis	2	...	...	...	...	...	...	1	1	...	...	...	...
Appendicitis, Perityph :	48	1	...	6	3	5	5	8	3	5	7	5	...
Hernia	29	...	...	...	1	...	...	...	1	3	10	10	2
Intestinal Obstruct:	56	10	2	2	...	1	...	2	8	5	9	5	10
Other Diseases of Intestines	5	...	...	...	...	...	...	...	...	...	2	2	1
Peritonitis	22	...	3	6	1	1	1	3	1	1	3	2	...
Cirrhosis of Liver	21	1	...	...	...	...	...	...	1	3	8	7	1
Liver	7	...	1	...	...	...	2	...	...	1	1	1	1
Biliary Calculi	14	...	...	...	...	...	...	1	...	1	5	4	3
Digestive System (Other Dis:)	36	1	2	2	...	...	...	3	3	6	8	9	2
7. DIS : OF LYMPHATIC AND DUCTLESS GLANDS.													
Spleen, Disease of	...	...	...	...	...	...	...	...	...	...	...	...	...
Lymphat: Syst: (Other Dis:)	20	1	1	...	...	...	1	4	4	4	5	...	...
Thyroid Body (Other Dis:)	4	...	2	...	...	...	...	...	...	...	...	2	...
Addison's Dis : (Dis: of)	4	...	...	...	...	...	...	...	...	...	3	...	1
8. DISEASES OF URINARY SYSTEM.													
Nephritis Ac: Uræmia	43	...	1	2	2	2	2	5	3	7	10	8	1
Ch : Bright's Dis : Albumin :	218	...	...	1	1	4	7	10	19	29	49	74	22
Calculus	8	...	...	...	1	...	1	1	3	...	1	...	1
Bladder and Prostate Dis :	97	...	1	...	...	...	...	2	...	3	19	48	22
Urinary Syst : (Other Dis :)	19	...	...	...	...	...	3	3	2	3	3	4	1

TABLE A, 1933—*concluded.*

CAUSES OF DEATH	All Ages	Ages at Death: Under 5 Years												
		0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
9. DISEASES OF GENERATIVE SYSTEM.														
Ovarian Tumour	3	...	...	...	...	...	...	1	...	1	...	1	...	...
Other Dis : of Ovary	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Uterine Tumour	3	...	...	...	...	...	1	...	...	...	1	1	...	...
Other Dis: of Uterus and Vagina	7	...	...	...	...	...	1	...	3	1	2	...	...	...
Disord : of Menstruation	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gener: and Mam: Orgs: (Other)	2	...	...	...	...	...	...	...	...	2	...	...	...	...
10. DISEASES OF PREGNANCY AND CHILDBIRTH.														
Abortion, Miscarriage	4	...	...	...	...	...	...	4	...	...	...	...	...	...
Puerperal Mania	1	...	...	...	...	...	...	1	...	...	...	...	...	...
Puerperal Convulsions	2	...	...	...	...	...	1	1	...	...	...	...	...	...
Placenta Præv: Flooding	5	...	...	...	...	...	...	2	3	...	...	...	...	...
Other Ac: of Preg: & Childbirth	28	...	...	...	...	1	4	15	8	...	...	...	...	...
11. DISEASES OF LOCOMOTOR SYSTEM.														
Caries, Necrosis	9	...	...	1	...	1	...	2	2	1	...	2	...	...
Arthritis, Periostitis	3	1	...	...	...	...	...	...	...	...	1	...	1	...
Locomotor Sys : (Other)	3	...	1	...	...	...	...	...	...	1	...	...	1	...
12. DISEASES OF THE SKIN.														
Carbuncle, Boil	10	...	...	...	...	...	...	...	2	...	5	2	1	...
Ulcer, Bedsore	4	...	...	...	...	...	...	...	...	3	1	...	...	...
Eczema	7	5	...	...	...	...	...	...	...	...	1	...	...	1
Pemphigus	2	2	...	...	...	...	...	...	...	...	...	...	...	...
Skin Diseases (Other)	8	1	1	...	...	...	...	...	...	3	...	2	1	...
C.—Other Specified Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...
D.—Ill-defined and not Specified Diseases.														
Atrophy, Debility	22	21	1	...	...	...	...	...	...	...	...	...	...	...
Old Age	353	...	...	...	...	...	...	...	...	...	7	85	200	61
Dropsy, Ascites, Anasarca	2	...	...	...	...	...	...	...	...	...	1	...	1	...
Tumour	19	...	...	1	...	...	...	...	4	...	3	7	2	2
Abscess	5	1	...	...	...	...	...	...	1	...	1	...	1	1
Hæmorrhage	...	...	...	...	...	...	...	...	...	...	...	...	..	...
Sudden (cause unascertained)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Ill-defined	1	...	...	...	...	...	...	1	...	...	...	...	...	...
E.—Violent Deaths.														
1. ACCIDENT.														
In Mines and Quarries	3	...	...	...	...	...	...	1	1	...	1	...	...	...
By Vehicles { On Railways	4	...	...	1	...	...	1	1	...	1	...	...	...	...
By Vehicles { In Streets	101	...	6	9	6	8	12	16	2	10	14	13	4	1
Ships, Boats, Docks (not Drowning)	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Building Operations	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Machinery	5	...	...	...	...	1	...	...	2	1	1	...	...	...
Weapons and Implements	2	...	...	...	...	...	...	...	1	...	...	1	...	...
Burns and Scalds	32	2	9	2	3	3	...	3	1	...	...	4	5	...
Poison, Poisonous Vapours	12	...	...	...	...	...	...	1	1	3	1	4	2	...
Drowning	17	1	1	3	1	1	1	2	...	3	2	1	1	...
Suffocation	9	6	...	1	...	...	...	...	1	...	...	1	...	...
Falls	49	...	2	3	...	2	3	...	1	4	11	11	10	2
Weather Agencies	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Otherwise or not Stated	9	2	...	...	3	...	...	...	...	2	2	...	...	...
2. HOMICIDE.	10	...	...	...	...	...	1	2	1	...	4	2	...	...
3. SUICIDE.	99	...	...	...	...	1	5	18	16	27	17	14	1	...
4. EXECUTION.	1	...	...	...	...	...	...	...	...	1	...	...	...	...

TABLE B.—MANCHESTER, 1933.

Causes of Deaths at Different Life Periods—MALES.

Classes	CAUSES OF DEATH	All Ages Total	Ages at Death—in years: Under 5 Years 0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85
	All Causes	5253	498	180	76	55	89	128	287	383	696	1066	1112	605
	Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...
	Measles	23	3	20	...	...	...	...	...	...	...	..	...	...
	Scarlet Fever	7	...	1	2	3	...	...	...	1	...	...	...	...
	Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
	Whooping Cough	20	11	9	...	...	...	...	...	...	...	...	...	...
	Diphtheria	46	...	21	19	4	...	...	...	...	1	...	1	...
	Ill-defined Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
	Enteric Fever	1	...	...	...	...	...	..	1	...	...	...	...	...
	Influenza	265	7	6	1	4	13	7	24	41	57	51	33	19
	Epidemic Diarrhœa	1	1	...	...	...	...	...	...	...	...	...	...	...
	Diarrhœa, Dysentery, Simple Cholera	64	60	3	...	...	...	...	...	...	...	1	...	...
	Venereal Affections	35	3	1	...	...	...	...	2	4	5	14	5	1
	Erysipelas	16	3	...	...	...	...	1	...	1	...	2	6	3
	Pyæmia, Septicæmia (Others)	10	...	1	1	2	...	1	1	1	2	1	...	...
A	Other Zymotics	23	5	2	1	4	2	2	2	2	2	...	1	...
	Tuberc. Periton: Tabes Mes:	6	1	...	1	...	1	1	1	1	...	...	...	...
	Tubercular Meningitis	23	1	10	4	3	2	...	1	1	1	...	...	..
	Phthisis	454	1	3	2	1	21	39	82	105	106	79	13	2
	Tuberculous Dis. (Other)	23	2	2	...	...	6	2	3	2	3	2	1	...
	Parasitic Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...
	Alcoholism	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rheumatic Fever	27	...	2	1	2	1	1	4	4	3	1	5	3
	Cancer	576	...	1	1	2	2	1	14	36	82	193	174	66
	Premature Birth	130	130	...	...	...	...	..	...	...	...	...	...	...
	Congenital Defects	49	44	5	...	...	...	...	...	...	...	...	...	...
	Atelectasis	22	22	...	...	...	...	...	...	...	...	...	...	...
	Epilepsy	24	...	1	...	...	2	5	7	2	3	3	...	1
	Convulsions	9	9	...	...	...	...	...	...	...	...	...	...	...
	Nervous Syst: (Other)	134	2	3	4	4	3	3	15	17	32	27	21	3
	Cereb: Hæm: Apoplexy, Hemip:	182	4	1	...	...	1	1	...	2	15	53	61	40
	Heart and Blood Vessel Dis:	1249	2	...	4	4	5	9	25	31	140	311	427	253
	Pleurisy	7	...	1	...	...	...	...	...	1	1	2	2	...
	Bronchitis	267	22	7	...	...	...	2	1	12	38	72	70	37
B and C	Pneumonia Lobar-Croupous	231	10	7	7	5	6	11	22	38	59	41	20	5
	Pneumonia Broncho-Lobular	238	82	48	3	2	1	3	7	14	15	28	28	5
	"*Pneumonia*"	18	1	1	...	...	1	2	1	1	7	3	1	...
	Respiratory Dis: (Other)	66	...	...	...	..	2	2	2	7	7	15	14	17
	Cirrhosis	14	1	...	...	...	...	...	...	1	1	5	6	...
	Digestive Syst: (Other)	168	11	9	6	2	4	6	14	15	30	34	29	7
	Urinary Syst: (Other)	229	...	1	...	2	...	5	10	12	25	48	87	35
	Generative Organs	...	...	...	...	...	...	...	...	...	...	...	...	...
	Other specified Diseases	189	38	7	5	3	3	5	18	9	21	36	30	14
	Marasmus and Atrophy	13	13	...	...	...	...	...	...	...	...	...	...	...
D	Old Age	144	...	...	...	...	...	...	...	...	...	4	43	83
	Other Ill-defined Causes	15	...	...	1	...	...	...	...	4	...	2	5	1
	Violence	168	9	7	13	8	13	16	21	7	19	26	18	1
E	Homicide	5	...	...	...	...	...	...	...	...	...	3	2	...
	Suicide	61	...	...	...	...	...	3	9	11	20	9	9	...
	Execution	1	...	...	...	...	...	...	...	...	1	...	...	...

TABLE C.—MANCHESTER, 1933.

Causes of Deaths at Different Life Periods—FEMALES.

Classes	CAUSES OF DEATH	All Ages Total	Ages at Death—in years												
			Under 5 Years												
			0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
	All Causes	5088	335	192	81	54	114	137	270	337	514	806	1152	893	203
A	Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Measles	25	4	16	5	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever	9	...	6	2	1	...	...	...	...	...	...	...	...	...
	Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Whooping Cough	27	7	20	...	...	...	...	...	...	...	...	...	...	...
	Diphtheria	39	1	11	17	7	..	...	...	...	...	2	1	...	..
	Ill-defined Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Enteric Fever	1	...	...	...	...	...	...	...	...	...	...	1	...	...
	Influenza	271	3	10	1	1	8	8	20	26	37	54	47	47	9
	Epidemic Diarrhœa	1	1	...	...	...	...	..	...	...	...	...	...	...	..
	Diarrhœa, Dysentery, Simple Cholera	31	25	6	...	...	...	...	...	...	...	...	...	...	...
	Venereal Affections	12	3	...	...	...	...	...	1	1	6	1	...	...	...
	Erysipelas	12	2	...	...	...	...	1	1	1	3	1	3	...	...
	Pyæmia, Septicæmia (Others)	9	2	...	...	...	...	..	2	2	1	...	2	...	...
	Puerperal Fever	17	...	...	...	...	...	5	8	4	...	...	...	...	...
	Other Zymotics	41	6	3	1	6	5	4	4	3	6	1	2	...	...
	Tubercular Periton : Tabes Mes.	9	1	...	...	...	3	1	2	1	1	...	...	...	...
	Tubercular Meningitis	29	...	12	6	2	4	3	...	2	...	...	...	...	...
	Phthisis	319	1	1	1	6	47	66	77	56	40	16	6	2	...
	Tuberculous Diseases (Other)	24	2	2	2	1	2	...	6	4	2	1	...	2	...
	Parasitic Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Alcoholism	1	...	...	...	...	...	...	...	...	...	...	1	...	...
	Rheumatic Fever	40	...	...	1	2	4	4	1	4	8	4	7	5	...
	Cancer	599	...	1	...	1	1	2	8	44	105	172	189	67	9
	Premature Birth	97	97	...	...	...	...	...	...	...	...	...	...	...	...
	Congenital defects	37	33	4	...	...	...	...	...	...	...	...	...	...	...
	Atelectasis	12	12	...	...	...	...	..	...	...	...	...	...	...	...
B and C	Epilepsy	22	...	...	...	1	2	...	1	5	1	6	6	..	...
	Convulsions	12	11	1	...	...	...	...	...	...	...	...	...	...	...
	Nervous System (Other)	119	2	6	3	1	5	5	11	17	22	22	22	3	...
	Cerebral Hæmorrhage, Apoplexy, and Hemiplegia	180	3	...	...	...	1	...	1	3	17	41	68	42	4
	Heart and Blood Vessel Diseases	1395	...	1	5	5	8	6	23	50	121	251	455	380	90
	Pleurisy	6	...	...	...	...	1	...	...	...	1	2	2	...	...
	Bronchitis	284	16	1	...	1	1	...	4	7	23	39	74	95	23
	Pneumonia { Lobar-Croupous	115	7	8	4	3	1	1	13	16	13	22	19	8	...
	Pneumonia { Broncho-Lobular	227	51	57	8	...	...	1	7	12	13	17	33	21	7
	"*Pneumonia*"	12	...	1	1	...	...	...	..	1	...	2	2	4	1
	Respiratory Diseases (Other)	50	...	...	...	...	...	...	1	2	7	8	11	16	5
	Cirrhosis	7	...	...	...	...	...	...	...	...	2	3	1	1	...
	Digestive System (Other)	172	4	8	11	5	6	5	14	13	17	35	29	21	4
	Urinary System (Other)	156	...	1	3	2	6	8	11	15	17	34	47	12	...
	Generative Organs and Childbirth	55	...	...	...	...	1	7	24	14	4	3	2	...	...
	Other specified Diseases	265	30	4	4	4	5	6	15	24	35	47	56	34	1
D	Marasmus and Atrophy	9	8	1	...	...	..	...	...	...	...	...	...	...	...
	Old Age	209	...	...	...	...	...	...	...	..	...	3	42	117	47
	Other Ill-defined Causes	12	1	...	...	...	...	...	1	1	...	3	2	3	1
E	Violence	76	2	11	6	5	2	1	3	3	5	7	17	12	2
	Homicide	5	...	...	...	...	...	1	2	1	...	1	...	...	...
	Suicide	38	...	...	...	...	1	2	9	5	7	8	5	1	...

TABLE D.

MANCHESTER, 1933.—CAUSES OF DEATH IN INFANCY AND CHILDHOOD.

CAUSES OF DEATH	UNDER ONE YEAR			Total under One Year	ONE AND UNDER FIVE YEARS			
	Under 3 months	3–6 months	6–12 months		1–	2–	3–	4–
All Causes	544	125	164	833	183	65	67	57
Chicken Pox	...	...	...	...	...	...	...	...
Measles	...	...	7	7	23	4	4	5
Scarlatina	...	...	...	...	2	...	3	2
Whooping Cough	4	4	10	18	17	7	2	3
Diphtheria	...	...	1	1	5	5	9	13
Erysipelas	3	1	1	5	...	...	...	...
Diarrhœal Diseases	42	31	14	87	9	...	...	...
Gastritis	...	...	...	...	...	3	3	1
Syphilis	3	3	...	6	1	...	...	...
Tabes Mesenterica and Tuberc. Peritonitis	...	...	2	2	...	...	...	...
Tubercular Meningitis	...	...	1	1	9	5	5	3
Tuberculosis (Other)	...	1	5	6	4	2	2	...
Rickets	...	1	3	4	1	1	1	...
Premature Birth	222	5	...	227	...	...	...	...
Injury at Birth	27	..	...	27	...	...	...	...
Atelectasis	34	...	...	34	...	...	..	...
Congenital Malformations	57	12	8	77	6	1	...	2
Convulsions	18	1	1	20	1	...	...	...
Meningitis	1	1	1	3	3	2	...	2
Nervous Diseases (Other)	...	...	1	1	...	1	...	2
Bronchitis	21	8	9	38	6	1	1	...
Pneumonia	44	38	69	151	73	19	20	10
Other Respiratory Diseases	...	...	...	...	1	...	...	...
Atrophy, Marasmus	19	2	...	21	...	...	1	...
Found Dead in Bed (overlaid)	1	...	...	1	...	...	...	...
Suffocation	3	...	2	5	...	...	...	...
Violence (Other forms)	3	...	2	5	3	5	7	3
Ill-defined Causes	1	...	...	1	...	..	...	...
Unclassified	41	17	27	85	19	9	9	11

TABLE E.—MANCHESTER—ESTIMATED POPULATIONS. ANNUAL RATES OF MARRIAGES, BIRTHS, AND DEATHS (*a*) FROM ALL CAUSES, (*b*) FROM SPECIFIED CAUSES, AND (*c*) INFANTILE MORTALITIES; ALSO THE PERCENTAGES TO TOTAL DEATHS OF INQUEST CASES AND OF DEATHS IN PUBLIC INSTITUTIONS; ALSO QUINQUENNIAL AVERAGES 1871-1930.

	Year	Estimated Population (Mean)	Persons Married	Annual Rates per 1,000 persons living												Percentage to Total Deaths		Infantile Mortality	Year
				Births	Deaths (all causes)	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Typhus Fever	Enteric Fever	Simple Continued Fever	Diarrhœa Diseases	Violence	Inquest Cases	Deaths in Public Institutions		
Quinquennial Average	1871–1875	477,344	24·6	38·9	28·3	0·26	0·64	1·08	0·08	0·78	0·14	0·43	0·21	1·95	0·94	7·2	13·4	198	.. 1871–1875
	1876–1880	509,802	18·6	38·7	26·2	0·24	0·53	1·07	0·13	0·84	0·08	0·29	0·11	1·26	0·89	7·5	14·3	172	.. 1876–1880
	1881–1885	542,746	17·9	35·1	23·6	0·04	0·71	0·48	0·10	0·68	0·05	0·20	0·03	0·99	0·72	7·0	15·9	175	.. 1881–1885
	1886–1890	575,630	16·6	33·4	24·6	0·02	0·83	0·50	0·32	0·54	0·02	0·30	0·01	1·08	0·78	6·9	17·7	183	.. 1886–1890
	1891–1895	517,801	16·9	33·2	23·6	0·03	0·62	0·26	0·27	0·64	0·00	0·24	0·01	1·19	0·77	7·1	19·2	186	. 1891–1895
	1896–1900	539,599	18·2	32·5	22·7	..	0·89	0·20	0·13	0·53	0·00	0·18	0·01	1·69	0·73	7·1	20·2	192	.. 1896–1900
	1901–1905	554,355	17·4	30·9	20·1	0·01	0·55	0·19	0·22	0·41	0·00	0·13	0·00	1·15	0·72	7·1	24·4	173	.. 1901–1905
	1906–1910	660,049	17·0	28·1	17·7	..	0·54	0·16	0·17	0·37	0·00	0·10	0·00	0·76	0·68	7·4	27·3	147	.. 1906–1910
	1911–1915	731,677	17·6	24·8	16·4	..	0·50	0·12	0·14	0·25	..	0·05	..	0·84	0·67	7·9	30·8	133	. 1911–1915
	1916–1920	770,330	16·7	19·2	14·1	..	0·24	0·04	0·08	0·21	..	0·02	0·00	0·30	0·49	6·4	32·3	105	.. 1916–1920
	1921–1925	751,288	16·8	20·6	13·9	..	0·25	0·06	0·10	0·20	..	0·01	..	0·33	0·44	5·7	37·8	95	.. 1921–1925
	1926–1930	759,570	17·3	17·4	13·8	..	0·18	0·02	0·11	0·14	..	0·01	..	0·24	0·46	4·8	42·9	88	.. 1926–1930
	1931..	766,378	16·2	15·9	13·9	..	0·08	0·01	0·08	0·11	..	0·01	..	0·20	0·46	4·6	46·8	84	 1931
	1932..	768,745	16·0	15·4	13·0	..	0·16	0·02	0·11	0·10	..	0·01	..	0·15	0·52	5·7	47·6	85	 1932
	1933..	771,165	16·7	14·4	13·4	..	0·06	0·02	0·11	0·06	..	0·00	..	0·13	0·46	5·0	47·8	75	 1933

The populations and rates prior to 1891 are those for the Unions of Manchester, Chorlton, and Prestwich, which have been taken as approximately representing "Manchester." The City was extended to include Moss Side and Withington in November, 1904, Gorton and Levenshulme in November, 1909, and Wythenshawe, April, 1931.

TABLE F.

MANCHESTER—ANNUAL RATES OF MORTALITY FROM CERTAIN CAUSES OF DEATH.

YEAR	ANNUAL RATES PER 1,000 PERSONS LIVING										RAT PER I BIR
	Cancer	Tuberc. Peritonitis Tabes Mes.	Phthisis	Other Tuberc. Diseases	Diseases of Nervous System	Diseases of Heart and Blood Vessels	Diseases of Respiratory System	Diseases of Digestive System	Diseases of Urinary System	Diseases of Generative System	Puerperal Fever
1881-1885 ..	0·50	0·35	2·42	0·57	3·28	1·37	5·41	1·23	0·48	0·08	3·03
1886-1890 ..	0·64	0·36	2·24	0·59	3·09	1·73	5·76	1·23	0·61	0·08	3·22
1891-1895 ..	0·62	0·22	2·09	0·75	1·74	2·53	5·56	1·07	0·52	0·07	2·75
1896-1900 ..	0·73	0·19	2·04	0·63	1·32	2·54	5·03	1·04	0·49	0·09	1·55
1901-1905 ..	0·80	0·16	1·94	0·55	1·17	2·56	4·29	0·95	0·49	0·08	1·21
1906-1910 ..	0·88	0·14	1·65	0·45	0·95	2·56	3·75	0·84	0·54	0·07	1·28
1911-1915 ..	1·01	0·12	1·59	0·38	0·79	2·34	3·45	0·68	0·56	0·09	1·24
1916-1920 ..	1·08	0·09	1·39	0·28	0·54	2·27	2·98	0·51	0·47	0·06	1·58
1921-1925 ..	1·34	0·06	1·26	0·24	0·51	2·58	3·03	0·47	0·46	0·07	1·54
1926-1930 ..	1·45	0·03	1·16	0·19	0·48	3·05	2·66	0·45	0·50	0·07	1·74
1931	1·62	0·03	1·12	0·14	0·45	3·49	2·59	0·44	0·50	0·06	*1·17
1932	1·64	0·02	1·00	0·15	0·43	3·62	1·98	0·46	0·49	0·02	1·45
1933	1·52	0·02	1·00	0·13	0·41	3·90	1·97	0·47	0·50	0·07	1·45

See footnotes to Table E.

* From the Year 1931 the Maternal Mortality rates are calculated on per 1,000 births (Live and Stillbir

TABLE G, 1933.—POPULATION, AREA, DENSITY. TOTAL BIRTHS AND DEATHS, WITH BIRTH AND DEATH RATES.

[INSTITUTION POPULATIONS, BIRTHS AND DEATHS, DISTRIBUTED.]

WARDS	Estimated Population	Area in Acres	Persons to an Acre	BIRTHS		DEATHS		Natural Rate of Increase
				Total	Rate per 1,000	Total	Rate per 1,000	
City	**771,165**	**27,257**	**28**	**11,116**	**14·41**	**10,341**	**13·41**	**+ 1·00**
All Saints	22,119	300	74	407	18·40	353	15·96	+ 2·44
Ardwick	24,752	426	58	414	16·72	389	15·71	+ 1·01
Beswick	27,647	254	109	444	16·06	363	13·13	+ 2·93
Blackley	20,606	1,158	18	264	12·81	255	12·37	+ 0·44
Bradford	26,109	790	33	363	13·90	318	12·18	+ 1·72
Cheetham	23,443	555	42	317	13·52	260	11·09	+ 2·43
Chorlton-cum-Hardy	45,781	1,666	27	375	8·19	467	10·20	− 2·01
Collegiate Church	16,579	446	37	250	15·08	242	14·60	+ 0·48
Collyhurst	23,275	232	100	428	18·39	341	14·65	+ 3·74
Crumpsall	16,511	2,203	7	231	13·99	191	11·57	+ 2·42
Didsbury	26,406	2,354	11	355	13·44	249	9·43	+ 4·01
Exchange	320	61	5	2	6·25	3	9·37	− 3·12
Gorton North	21,774	604	36	276	12·67	268	12·31	+ 0·36
Gorton South	28,990	628	46	339	11·69	320	11·04	+ 0·65
Harpurhey	21,169	344	62	329	15·54	303	14·31	+ 1·23
Levenshulme	20,070	606	33	228	11·36	245	12·21	− 0·85
Longsight	23,103	593	39	258	11·17	283	12·25	− 1·08
Medlock Street	27,112	212	128	508	18·74	446	16·45	+ 2·29
Miles Platting	23,896	313	76	422	17·66	321	13·43	+ 4·23
Moston	24,420	241	101	332	13·60	254	10·40	+ 3·20
Moss Side East	19,629	267	74	360	18·34	315	16·05	+ 2·29
Moss Side West	20 003	1,231	16	272	13·60	316	15·80	− 2·20
New Cross	25,991	303	86	499	19·20	490	18·85	+ 0·35
Newton Heath	20,518	1,007	20	282	13·74	303	14·77	− 1·03
Openshaw	22,652	482	47	276	12·18	336	14·83	− 2·65
Oxford	696	167	4	14	20·11	23	33·05	− 12·94
Rusholme	22,269	806	28	246	11·05	298	13·38	− 2·33
St. Ann's	229	55	4	...	...	4	17·47	− 17·47
St. Clement's	6,137	181	34	108	17·60	97	15·81	+ 1·79
St. George's	25,655	266	96	458	17·85	422	16 45	+ 1·40
St John's	4,600	199	23	71	15·43	79	17·17	− 1·74
St. Luke's	26,754	316	85	458	17·12	501	18·73	− 1·61
St. Mark's	23,554	340	69	344	14·60	310	13·16	+ 1·44
St. Michael's	18,785	243	77	374	19·91	380	20·23	− 0·32
Withington	49,349	1,841	27	594	12·03	433	8·77	+ 3·26
Wythenshawe	20,262	5,567	4	218	10·76	163	8·05	+ 2·71

TABLE H, 1933.

Births Registered in the City of Manchester, in Wards, and Distinguishing Legitimate and Illegitimate Births; also the Proportion of Mortality among Infants of both Classes under One Year of Age.

WARDS	BIRTHS		Percentage of Illegitimate Births to Total Births	Deaths under 1 Year		Proportion of Deaths under 1 Year Per 1,000 Births		
	Total	Illegitimate		Total	Of Illegitimate Children	Total	Legitimate	Illegitimate
City	11,116	533	4·8	833	56	75	73	105
All Saints	407	53	13·0	37	5	91	90	94
Ardwick	414	14	3·4	33	2	80	78	143
Beswick	444	13	2·9	32	2	72	70	154
Blackley	264	6	2·3	23	...	87	89	...
Bradford	363	8	2·2	21	...	58	59	...
Cheetham	317	20	6·3	20	1	63	64	50
Chorlton-cum-Hardy	375	9	2·4	14	2	37	33	222
Collegiate Church	250	20	8·0	22	...	88	96	...
Collyhurst	428	17	4·0	41	3	96	92	176
Crumpsall	231	9	3·9	14	1	61	59	111
Didsbury	355	18	5·1	14	4	39	30	222
Exchange	2	...	...	...	...	...	...	...
Gorton North	276	8	2·9	18	2	65	60	250
Gorton South	339	10	3·0	25	...	74	76	...
Harpurhey	329	11	3·3	28	1	85	85	91
Levenshulme	228	12	5·3	10	...	44	46	...
Longsight	258	16	6·2	18	2	70	66	125
Medlock Street	508	22	4·3	40	2	79	78	91
Miles Platting	422	11	2·6	34	1	81	80	91
Moston	332	8	2·4	17	...	51	52	...
Moss Side East	360	35	9·7	33	6	92	83	171
Moss Side West	272	17	6·3	18	1	66	67	59
New Cross	499	21	4·2	54	4	108	105	190
Newton Heath	282	5	1·8	18	...	64	65	...
Openshaw	276	10	3·6	26	...	94	98	...
Oxford	14	1	7·1	3	...	214	230	...
Rusholme	246	15	6·1	18	1	73	74	67
St. Ann's	...	...	...	...	...	...	...	...
St. Clement's	108	8	7·4	8	...	74	80	...
St. George's	458	28	6·1	35	3	76	74	107
St. John's	71	6	8·4	8	1	113	108	167
St. Luke's	458	44	9·6	50	7	109	104	159
St. Mark's	344	16	4·7	28	2	81	79	125
St. Michael's	374	26	7·0	28	2	75	75	77
Withington	594	14	2·4	26	1	44	43	71
Wythenshawe	218	2	0·9	19	...	87	88	...

TABLE I, 1933.

MANCHESTER.—Certification of the Causes of Death in the City and in the various Wards.

WARDS	Total Deaths	Certified by		Not Certified	Proportion per cent. of Deaths		
					Certified by		Not Certified
		Registered Medical Practitioners	Inquest		Regist'd Medical Prac-titioners	Inquest	
City …………………	10,341	9,732	514	95	94·1	5·0	0·9
All Saints …………………	353	337	11	5	95·5	3·1	1·4
Ardwick …………………	389	375	13	1	96·4	3·3	0·3
Beswick …………………	363	346	16	1	95·3	4·4	0·3
Blackley …………………	255	243	10	2	95·3	3·9	0·8
Bradford …………………	318	290	25	3	91·2	7·9	0·9
Cheetham …………………	260	248	10	2	95·4	3·8	0·8
Chorlton-cum-Hardy …………	467	432	29	6	92·5	6·2	1·3
Collegiate Church …………	242	233	6	3	96·3	2·5	1·2
Collyhurst …………………	341	330	8	3	96·8	2·3	0·9
Crumpsall …………………	191	177	13	1	92·7	6·8	0·5
Didsbury …………………	249	233	12	4	93·6	4·8	1·6
Exchange …………………	3	3	…	…	100·0	…	…
Gorton North …………………	268	260	7	1	97·0	2·6	0·4
Gorton South …………………	320	301	16	3	94·1	5·0	0·9
Harpurhey …………………	303	281	18	4	92·7	6·0	1·3
Levenshulme …………………	245	229	13	3	93·5	5·3	1·2
Longsight …………………	283	265	14	4	93·6	5·0	1·4
Medlock Street …………………	446	415	23	8	93·0	5·2	1·8
Miles Platting …………………	321	301	20	…	93·7	6·3	…
Moston …………………	254	244	10	…	96·1	3·9	…
Moss Side East …………………	315	299	14	2	94·9	4·5	0·6
Moss Side West …………………	316	294	16	6	93·0	5·1	1·9
ew Cross …………………	490	462	25	3	94·3	5·1	0·6
ewton Heath …………………	303	286	14	3	94·4	4·6	1·0
penshaw …………………	336	311	21	4	92·5	6·3	1·2
xford …………………	23	22	…	1	95·6	…	4·4
usholme …………………	298	279	16	3	93·6	5·4	1·0
t. Ann's …………………	4	4	…	…	100·0	…	…
t. Clement's …………………	97	89	7	1	91·6	7·2	1·2
. George's …………………	422	391	30	1	92·7	7·1	0·2
t. John's …………………	79	76	2	1	96·3	2·5	1·2
. Luke's …………………	501	467	27	7	93·2	5·4	1·4
. Mark's …………………	310	293	16	1	94·4	2·5	0·4
. Michael's …………………	380	356	19	5	93·7	5·0	1·3
ithington …………………	433	408	23	2	94·2	5·3	0·5
ythenshawe …………………	163	152	10	1	93·2	6·2	0·6

NOTIFIABLE INFECTIOUS DISEASES OTHER THAN WHOOPING COUGH AND TUBERCULOSIS.

The diseases included in the Infectious Disease (Notification) Acts, 1889 and 1899, regulations under the Public Health Acts, are as follows:—Smallpox, Scarlet Fev Diphtheria, Typhus Fever, Enteric or Typhoid Fever, Relapsing Fever, Continued Fev Puerperal Fever, Puerperal Pyrexia, Erysipelas, Ophthalmia Neonatorum, Cerebro-Spi Fever, Poliomyelitis, Polio-Encephalitis and Encephalitis-Lethargica, Malaria, Dysent Acute Primary Pneumonia, Acute Influenzal Pneumonia, Measles, Rubella, and Pemphi Neonatorum. The following cases were notified in 1933, and the numbers are compa with the average of the previous ten years:—

	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	**Mean**
Smallpox	..	..	..	2	36	68	8	2	..	..	12
Scarlet Fever	1,814	1,784	2,869	2,259	1,823	2,100	2,318	3,701	2,913	2,283	2,386
Diphtheria	536	570	1,040	1,145	1,208	1,033	761	838	573	885	859
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	50	103	65	30	18	32	41	33	24	39	44
Relapsing Fever	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	130	115	179	174	107	133	144	156	139	96	137
Puerperal Pyrexia	..	..	..	32	102	66	80	88	80	76	75
Erysipelas	294	284	412	378	358	428	441	501	399	334	383
Ophthalmia Neonatorum	227	336	266	218	192	192	137	144	119	108	194
Cerebro-Spinal Fever	3	11	9	12	9	9	17	22	38	27	16
Poliomyelitis..	4	7	12	12	12	8	4	3	4	5	7
Polio-Encephalitis	..	1	4	2	..	2	2	..	..	..	1
Encephalitis-Lethargica	36	244	78	91	65	50	37	23	24	9	66
Malaria	16	3	4	1	3	15	14	1	1	1	6
Dysentery	2	2	1	2	2	13	4	17	6	2	5
Primary Pneumonia	2,067	2,203	2,200	1,876	2,260	2.176	2,265	2,059	2,005	2,047	2,116
Influenzal Pneumonia	426	447	351	313	690	363	875	290	480	321	456
Measles	3,481	18,349	7,941	10,953	13,987	7,141	9,512	10,738	7,771	12,238	10,211
Rubella	94	224	2,107	1,128	407	1,498	499	237	2,553	1,687	1,043
Pemphigus Neonatorum	..	..	83	128	116	106	87	112	64	46	93
	9,180	24,683	17,621	18,756	21,395	15,433	17,246	18,965	17,193	20,204	18,068

In 1900 Erysipelas was made notifiable, in 1910 Ophthalmia Neonatorum, in 1912 Cerebro-Spinal Fever Poliomyelitis. Measles and Rubella were made notifiable in 1916, and Polio-Encephalitis, Encephalitis-Letharg Malaria, Dysentery, Primary Pneumonia, Influenzal Pneumonia in 1919, in 1925 (September) Pemphi Neonatorum.

Puerperal Pyrexia was made notifiable on October 1st, 1926.

The deaths from the more common diseases are shown in the following figures :—

Years	Measles	Scarlet Fever	Diphtheria	Enteric Fever	Influenza	Whooping Cough	Diarrhœa	Phthisis
1922–32 average	152	27	76	7	316	118	182	897
1933	48	16	85	2	536	47	96	773

Consultations.—Eighty consultation visits were made during the year by Medical Officers of the Department at the request of medical practitioners in the City in connection with the diagnosis of cases of infectious disease in which the nature of the illness was in doubt.

SMALLPOX.

No cases of smallpox occurred in the City in 1933.

CHICKENPOX.

Chickenpox ceased to be a compulsory notifiable disease on July 1st, 1933. 1,679 notifications were received for the first half of the year.

SCARLET FEVER.

The following figures show the course of the disease in quarters :—

TABLE I.—SCARLET FEVER.—ATTACKS IN QUARTERS ACCORDING TO DATE OF RASH.

Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
1928 ..	519	483	488	610	2100
1929 ..	442	428	608	840	2318
1930 ..	775	738	885	1303	3701
1931 ..	889	729	612	683	2913
1932 ..	560	579	506	638	2283
5 years Mean	637	591	620	815	2663
1933 ..	417	454	304	598	1773

Table 2.—1933.—Scarlet Fever Attacks in Wards, with Attack Rate, Case Fatality per cent., and Removals to Hospital per cent.

Wards	Attacks	Attack Rate per 1,000 Living	† Case Fatality per cent.	Removals to Hospital per cent.
City	**1,773**	**2·30**	**1·02**	**77·83**
All Saints	38	1·71	2·63	92·11
Ardwick	44	1·78	—	86·36
Beswick	50	1·81	4·00	98·00
Blackley	64	3·11	1·56	68·75
Bradford	42	1·61	—	83·33
Cheetham	53	2·26	—	75·47
Chorlton-cum-Hardy..	88	1·92	—	54·55
Collegiate Church ..	36	2·17	—	91·67
Collyhurst	49	2·11	—	87·76
Crumpsall	39	2·36	—	69·23
Didsbury	69	2·61	1·45	59·42
Exchange	2	6·25	—	100·00
Gorton North	61	2·80	—	86·89
Gorton South	85	2·93	—	89·41
Harpurhey	56	2·65	—	73·21
Levenshulme	33	1·64	—	78·79
Longsight	66	2·86	—	62·12
Medlock Street	68	2·51	—	92·65
Miles Platting	77	3·22	1·30	88·31
Moston	64	2·62	1·56	76·56
Moss Side East ..	45	2·29	—	77·78
Moss Side West ..	43	2·15	—	83·72
New Cross	53	2·04	3·77	88·68
Newton Heath	84	4·09	1·19	84·52
Openshaw	41	1·81	2·44	92·68
Oxford	2	2·87	—	100·00
Rusholme	59	2·65	1·69	61·02
St. Ann's	1	4·37	—	100·00
St. Clement's	17	2·77	—	82·35
St. George's	30	1·17	—	86·66
St. John's	4	0·87	—	100·00
St. Luke's	38	1·42	—	89·47
St. Mark's	52	2·21	1·92	90·38
St. Michael's	30	1·60	10·00	76·66
Withington..	164	3·32	1·22	60·37
Wythenshawe	26	1·28	—	57·69

---

† Corrected; the fatal cases are those actually occurring amongst the cases notified.

TABLE 3.—SCARLET FEVER.—NUMBER OF ATTACKS AND OF DEATHS ; ALSO THE CASE FATALITY PER CENT. AT DIFFERENT AGES FOR THE FORTY-TWO YEARS, 1891—1932 AND FOR 1933.

Ages	1891–1932			1933		
	Attacks	Deaths	Case Fatality per cent.	Attacks	Deaths	Case Fatality per cent
Under 1 year	820	127	15·5	10	—	—
1 to 2 years ..	2,500	315	12·6	42	1	2·4
2 to 3 ,, ..	5,770	503	8·7	115	2	1·7
3 to 4 ,, ..	8,118	547	6·7	183	2	1·1
4 to 5 ,, ..	9,559	466	4·9	193	4	2·1
5 to 6 ,, ..	10,796	301	2·8	233	1	0·4
6 to 7 ,, ..	9,961	206	2·1	165	3	1·8
7 to 8 ,, ..	8,873	143	1·6	169	—	—
8 to 9 ,, ..	7,440	97	1·3	109	1	0·9
9 to 10 ,, ..	6,207	84	1·4	85	—	—
10 to 15 ,, ..	18,174	178	1·0	296	3	1·0
15 to 20 ,, ..	5,692	71	1·2	66	—	—
20 to 25 ,, ..	2,793	43	1·5	39	—	—
25 to 35 ,, ..	2,645	48	1·8	41	—	—
35 to 45 ,, ..	841	20	2·4	19	1	5·3
45 and over	230	7	3·0	8	—	—
All ages	100,419	3,156	3·1	1,773	18	1·0

TABLE 4.—SCARLET FEVER MORTALITY, 1933.—RATE PER 1,000 LIVING, COMPARED WITH MEAN OF FIVE YEARS.

	1928	1929	1930	1931	1932	Mean	1933
England and Wales	0·01	0·02	0·02	0·01	0·01	**0·01**	0·02
118 Great Towns	0·02	0·02	0·02	0·01	0·01	**0·02**	0·02
London	0.02	0·02	0·02	0·02	0·02	**0·02**	0·02
Manchester City	0·02	0·01	0·02	0·01	0·02	**0·02**	0·02
132 Smaller Towns	0·01	0·02	0·01	0·01	0·01	**0·01**	0·02

SCARLET FEVER, 1933.—ATTACKS IN WEEKS, ACCORDING TO DATE OF RASH.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week of Year	1933	Week of Year	1933	Week of Year	1933	Week of Year	1933
1	52	14	33	27	26	40	54
2	39	15	25	28	22	41	57
3	40	16	21	29	27	42	52
4	30	17	41	30	28	43	62
5	29	18	39	31	17	44	54
6	29	19	39	32	20	45	43
7	23	20	43	33	10	46	47
8	27	21	32	34	25	47	38
9	29	22	26	35	26	48	38
10	27	23	24	36	28	49	37
11	29	24	23	37	35	50	36
12	28	25	29	38	31	51	37
13	37	26	34	39	56	52	39
Total ..	419	Total ..	409	Total ..	351	Total ..	594

City total, 1933—1,773.

SCARLET FEVER "RETURN" CASES, 1933.

Out of 1,595 discharges from Monsall Hospital, 49 gave rise to at least 54 "return" cases, a "return" case rate per cent. of 3·4. In addition, 3 others contracted the disease indirectly from a returned patient.

Table showing the interval between return home of hospital patients and onset of illness in "return" cases.

Days	0–6	7–13	14–20	21–27
No. of Cases	16	20	12	6

DIPHTHERIA.

The following figures show the number of cases notified and accepted as diphtheria each year for the last ten years:—

1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
570	1,040	1,145	1,208	1,033	761	838	573	885	732

Of the total number of formal notifications received it was found on investigation that 185 related to persons who were merely carriers of diphtheria-like organisms, themselves being in apparent good health. In addition, a further 121 " carriers " were discovered who were not notified as suffering from diphtheria.

It is of interest to note the change in the age-incidence of diphtheria, which has gradually taken place during the last forty years.

Of the total number of cases at all ages, approximately 70 per cent. occur in children under 10 years of age. While this proportion remains fairly constant, the ratio of cases in the 0—5 years group to those in the 5—10 years group has become reversed.

During the 20 years ending 1913, 43·6 per cent. of the total number of cases occurred in children under 5 years and 31·2 per cent. in children between the ages of 5 and 10 years. During the 20 years ending 1933 the respective figures were 29·6 per cent. and 39·4 per cent. This experience is common to the whole country and is difficult to explain.

It might be expected that this change of incidence from the earlier to the later age-group would be accompanied by a lowering of the death-rate from this disease, and although the number of deaths depends not alone upon the ages of those attacked the death-rate from diphtheria per 1,000 of the population in Manchester does, in fact, show a reduction from 0·18, the average over the years 1894 to 1913, to 0·10, the average over the years 1914 to 1933.

The mortality from diphtheria can only be combated by prompt and intensive treatment by antitoxin. The difficulty in this regard becomes evident when it is considered that in the fatal cases which occurred in 1933 only 8 per cent. received treatment by antitoxin within two days of the onset of the illness, and only 15 per cent. within three days. Such delay is disastrous. It is due in part to the hesitancy of the parent in seeking medical advice and in part to the difficulties of early diagnosis which confront the medical attendant.

EXAMINATION OF "CONTACTS."

So far as was practicable, swabs were taken from the throats and noses of all members under 14 years of age of each family in which there had occurred a clinical case of diphtheria.

In all, 1,240 persons were swabbed and 186, or 15·0 per cent., gave positive results. Some of these were found to have clinical diphtheria, others proved to be merely "carriers."

"CARRIERS."

A diphtheria "carrier" is a person who, although apparently in normal health, yet harbours in the throat or nose organisms indistinguishable from those of diphtheria. Not all the diphtheria-like organisms harboured by "carriers" are capable of provoking disease, and a virulence test is made to determine which are capable of so doing and which are not.

The following table relates to 195 "carriers" in which a virulence test was made, and is of interest in showing the type of "carriers" which were discovered and the number of such which were capable of spreading infection.

DIPHTHERIA "CARRIERS."

1933.

Type	Number of "Carriers"	Number virulent	Number non-virulent	Doubtful	Per cent. virulent
Nose	143	48	25	70	33·6
Throat	36	20	11	5	55·6
Nose and Throat	16	6	7	3	37·5
Total number of carriers	195	74	43	78	37·9

VIRULENCE TESTS.

The value of testing the virulence of diphtheria bacilli lies in the fact that, in the past, harbourers of the bacillus have been kept in isolation, sometimes for long periods, irrespective of whether or not the organisms were virulent. In cases where the test is negative isolation of the individual is unnecessary and uneconomic.

Table I. shows that during the year virulence tests were carried out in 303 cases, with 142 positive and 161 negative results.

TABLE I.

VIRULENCE TESTS, 1933.

Nature of case	Number in which diphtheria bacilli were present	Result of test	
		Virulent	Non-virulent
Diphtheria Cases	7	6	1
Diphtheria "Contacts" ..	33	13	20
Persons with Rhinitis ..	177	76	101
Other Cases..	86	47	39
Total	303	142	161

SUPPLY OF ANTITOXIN.

Diphtheria antitoxin, in phials containing 8,000 units, is supplied free of charge to all medical practitioners for the treatment of residents in the City, and may be obtained by them during office hours from the Public Health Office or at any time from the following fire stations :—Ash Street, Harpurhey ; New Street, Miles Platting ; Pollard Street, Ancoats ; Upton Street, Chorlton-upon-Medlock. It may also be obtained at any time from all the district police stations. The total quantity supplied in this manner in 1933 was 453 phials (3,624,000 units), at a cost of £143 9s. 0d.

DIPHTHERIA IMMUNISATION.

The "Schick" test is a simple means of gauging the susceptibility of individuals to diphtheria infection. The knowledge thus gained enables subsequent immunisation of susceptible persons to be carried out. The value of this procedure has been proved in this and other countries. At Monsall Hospital much work has been done on these lines with successful results, and it is now the practice to test and immunise all members of the nursing staff employed at the hospital and any patients, whose parents desire it, during their convalescence from other fevers.

COMMUNITY IMMUNISATION.

On June 6th, 1928, the Manchester City Council approved a scheme for the free provision of the necessary material for "Schick" testing and immunisation against diphtheria to general medical practitioners for use in their private practices, and for immunisatiom to be carried out at the Public Health Department, Civic Buildings, at the Maternity and Child Welfare Centres, and at schools and school clinics.

In the following table are shown the numbers dealt with during 1933 :—

SUSCEPTIBILITY TESTS AND ACTIVE IMMUNISATION BY THE PUBLIC HEALTH DEPARTMENT, 1933.

	Schick Tests		Number Immunised	Diphtheria Prophylactic Injections
	Pos.	Neg.		
Municipal Hospitals—				
Staff	43	96	118	354
In-patients	4	1	3,024	7,063
Other Hospitals—				
Staff	13	3	16	48
In-patients	12	5	7	19
Child Welfare Centres	—	—	1,982	5,883
Schools (1)	60	112	5,752	16,808
Public Health Office	9	9	330	928
General Practitioners	4	1	148	440
Totals	145	227	11,377	31,543

During the year ninety per cent. received the full course of injections, and since the inception of this scheme 32,580 persons have been dealt with.

TABLE II.

DIPHTHERIA, 1933—ATTACKS IN WEEKS, ACCORDING TO DATE OF ONSET.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week of Year	1933	Week of Year	1933	Week of Year	1933	Week of Year	1933
1	13	14	18	27	5	40	20
2	13	15	21	28	9	41	14
3	18	16	16	29	16	42	16
4	15	17	18	30	8	43	14
5	20	18	21	31	8	44	10
6	12	19	16	32	5	45	19
7	9	20	9	33	11	46	16
8	9	21	20	34	16	47	19
9	5	22	11	35	13	48	11
10	13	23	12	36	12	49	24
11	12	24	18	37	15	50	15
12	13	25	16	38	15	51	14
13	8	26	12	39	23	52	16
Total ..	160	Total ..	208	Total ..	156	Total ..	208

CITY TOTAL, 1933—732.

The following table shows that the number of attacks is highest in children up to 10 years.

TABLE III.

DIPHTHERIA.—NUMBER OF ATTACKS, OF DEATHS, AND CASE FATALITY AT DIFFERENT AGES FOR THE FORTY-TWO YEARS, 1891-1932, AND FOR 1933.

Ages	1891-1932			1933		
	Attacks	Deaths	*Case Fatality %	Attacks	Deaths	*Case Fatality %
Under 1 year	551	296	53·7	10	2	20·0
1 to 2 years.. ..	1385	611	44·1	15	3	20·0
2 to 3 ,, ...	1970	570	28·9	31	7	22·6
3 to 4 ,, ...	2463	535	21·7	54	9	16·7
4 to 5 ,, ...	2665	504	18·9	77	12	15·6
5 to 6 ,, ...	2774	417	15·0	76	10	13·2
6 to 7 ,, ...	2286	267	11·7	85	8	9·4
7 to 8 ,, ...	1806	188	10·4	53	8	15·0
8 to 9 ,, ...	1456	152	10·4	50	7	14·0
9 to 10 ,, ...	1085	93	8·6	52	3	5·8
10 to 15 ,, ...	3170	142	4·5	140	12	8·6
15 to 20 ,, ...	1257	43	3·4	32	—	—
20 to 25 ,, ...	817	21	2·6	21	1	4·8
25 to 35 ,, ...	987	26	2·6	16	—	—
35 to 45 ,, ...	421	9	2·1	10	—	—
45 and over	209	17	8·1	10	4	40·0
All ages	25302	3891	15·4	732	86	11·7

* The percentages in this column are the actual proportions of fatal cases to the attacks at those ages.

The case fatality at all ages since 1914 has been as follows:—

1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
—	—	—	—	—	—	—	—	—	—
14·3	18·8	11·7	10·8	10·8	9·1	7·3	8·7	9·8	9·5

1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
—	—	—	—	—	—	—	—	—	—
9·3	8·8	8·6	8·3	8·1	7·8	6·4	10·1	9·3	11·7

Table IV.

Diphtheria, 1933.—Attacks in Wards, with Attack Rate, Case Fatality per cent., and Removals to Hospital per cent.

Wards	Attacks	Deaths	Attack Rate per 1000 Living	† Case Fatality per cent.	Removals to Hospital per cent.
City	**732**	**86**	**·95**	**11·75**	**92·35**
All Saints	21	1	·95	4·76	100·00
Ardwick	41	3	1·66	7·32	100·00
Beswick	19	3	·69	15·79	100·00
Blackley	34	7	1·65	20·59	100·00
Bradford	12	1	·46	8·33	100·00
Cheetham	13	3	·55	23·08	84·62
Chorlton-cum-Hardy . .	21	5	·46	23·81	90·48
Collegiate Church . .	18	1	1·09	5·56	100·00
Collyhurst	67	11	2·88	16·42	97·01
Crumpsall	15	3	·91	20·00	86·67
Didsbury	7	2	·26	28·57	85·71
Exchange	—	—	—	—	—
Gorton North	25	4	1·15	16·00	96·00
Gorton South	35	6	1·21	17·14	91·43
Harpurhey	17	3	·80	17·65	100·00
Levenshulme	3	—	·15	—	66·66
Longsight	20	1	·86	5·00	70·00
Medlock Street	35	3	1·29	8·57	91·43
Miles Platting	32	3	1·34	9·38	96·88
Moston	15	2	·61	13·33	86·67
Moss Side East	27	2	1·38	7·41	81·48
Moss Side West	8	—	·40	—	87·50
New Cross	25	2	·96	8·00	96·00
Newton Heath	15	1	·73	6·67	93·33
Openshaw	14	—	·62	—	85·71
Oxford	—	—	—	—	—
Rusholme	5	—	·22	—	80·00
St. Ann's	—	—	—	—	—
St. Clement's	6	—	·98	—	100·00
St. George's	38	4	1·48	10·53	92·11
St. John's	5	3	1·09	60·00	80·00
St. Luke's	21	1	·78	4·76	80·95
St. Mark	46	7	1·95	15·22	95·65
St. Michael's	26	3	1·38	11·54	100·00
Withington	38	1	·77	2·65	78·95
Wythenshawe	8	—	·39	—	87·50

† Corrected; the fatal cases are those actually occurring amongst the cases notified.

TABLE V.

DIPHTHERIA MORTALITY, 1933.—RATE PER 1,000 LIVING COMPARED WITH MEAN OF FIVE YEARS.

	1928	1929	1930	1931	1932	Mean	1933
England and Wales	0·06	0·08	0·09	0·07	0·06	**0·07**	0·06
118 Great Towns	0·09	0·09	0·10	0·08	0·07	**0·09**	0·08
London	0·09	0·08	0·10	0·06	0·07	**0·08**	0·08
Manchester City	0·13	0·07	0·07	0·08	0·11	**0·09**	0·11
132 Smaller Towns........	0·08	0·07	0·07	0·05	0·03	**0·06**	0·04

*ENTERIC FEVER.

Sixteen notifications of enteric fever were received in 1933. Two of them related to cases in which the diagnosis was subsequently altered. Thus 14 persons contracted enteric fever, 12 of whom were infected by B. typhosus and 2 by B. paratyphosus B. This is the lowest number of cases of enteric fever which has ever been recorded in the City in any one year.

Source of Infection.

Cases were widespread, both in place and time. One patient was admitted to a Manchester hospital from an outside district. Two were directly infected from persons known to be suffering from the disease ; one from an overlooked case which had occurred in the same household ; and one, probably, from a "carrier" living in the same house who gave no history of illness, but who was found to be harbouring and excreting typhoid organisms. In one instance it is likely that infection was derived from drinking well water whilst camping in the country. The well, on investigation, proved to be grossly contaminated with excretal matter. The only evidence implicating shell-fish was that one of the persons attacked gathered and ate cockles from a seaside beach some days prior to the onset of illness. The origin of infection in the other seven cases remained entirely obscure.

Examination of Blood Specimens.

148 specimens of blood were submitted by medical practitioners to the Public Health Laboratory in connection with the enteric group of diseases, and 6 showed definitely positive widal reactions. In addition, 26 specimens were obtained from members of infected households and in this way two intestinal "carriers" were discovered.

"Carriers."

Five known "carriers" have been kept under observation.

F, 33 years, infected by B. paratyphosus B. in April, 1932, was still harbouring and excreting these organisms in December, 1933.

F, 3 years, infected by B. paratyphosus B. in October, 1932, remained an intestinal "carrier" until April, 1933. Five successive examinations since that date have been negative.

F, 54 years, had typhoid in October, 1933, and was still a "carrier" in February, 1934.

F, 5 years, had typhoid in April, 1932. She harboured and excreted the organisms until November of that year, since which time six successive examinations have been negative and she is now considered to be free.

F, 37 years, with no history of illness, although known to have been in contact with a person suffering from typhoid, was discovered to be a "carrier" in April, 1933, and continued to be so until June of that year.

Instructions are given to these persons as to the precautions which must be taken. They have themselves kept in apparent good health, and, so far as is known, have not been responsible for any spread of infection.

Table I. shows the attack and death-rates compared with those for England and Wales since 1910.

TABLE I.

INCIDENCE OF AND DEATH-RATE FROM ENTERIC FEVER IN MANCHESTER.

Number of Notified Cases, Deaths, and Death-rates per 1,000 *living from Enteric Fever in each of Twenty-four successive Years.*

YEAR	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
No. of cases notified and accepted ...	358	256	242	292	156	174	78	86	68	90	54	74
No. of deaths.	62	46	43	47	34	46	22	10	10	19	13	12
Death-rate — Manchester	0·09	0·07	0·06	0·06	0·05	0·06	0·03	0·01	0·01	0·02	0·02	0·02
Death-rate — England and Wales...	0·05	0·07	0·04	0·04	0·05	0·04	0·03	0·03	0·03	0·01	0·01	0·02

YEAR	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
No. of cases notified and accepted . .	36	50	103	65	30	18	32	41	30	22	39	14
No. of deaths	4	8	14	8	9	1	4	7	4	4	3	3
Death-rate — Manchester	0·01	0·01	0·02	0·01	0·01	0·00	0·01	0·01	0·01	0·01	0·01	0·00
Death-rate — England and Wales. .	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01

* Including typhoid and paratyphoid.

Table II. shows at what ages enteric fever appears to be most prevalent and also at what ages it is most fatal.

TABLE II.

ENTERIC FEVER.—NUMBER OF ATTACKS, OF DEATHS, AND CASE FATALITY PER CENT. AT DIFFERENT AGES FOR THE FORTY-THREE YEARS, 1891—1933.

Ages	1891–1933		
	Attacks	Deaths	Case Fatality Per cent.
Under 1 year	20	9	45·0
1 to 2 years	58	8	13·8
2 ,, 3 ,, ...	122	17	13·9
3 ,, 4 ,, ...	175	22	12·6
4 ,, 5 ,, ...	231	25	10·8
5 ,, 6 ,, ...	265	28	10·6
6 ,, 7 ,, ...	266	26	9·8
7 ,, 8 ,, ...	246	20	8·1
8 ,, 9 ,, ...	264	22	8·3
9 ,, 10 ,, ...	261	26	10·0
10 ,, 15 ,, ...	1,502	162	10·8
15 ,, 20 ,, ...	1,641	296	18·0
20 ,, 25 ,, ...	1,596	313	19·6
25 ,, 35 ,, ...	2,358	541	22·9
35 ,, 45 ,, ...	1,159	337	29·0
45 and over	812	271	33·4
All ages	10,976	2,123	19·3

TABLE III.

ENTERIC FEVER ATTACKS IN WEEKS REPORTED IN 1933 ACCORDING TO DATE OF ONSET.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week of Year	1933	Week of Year	1933	Week of Year	1933	Week of Year	1933
1	—	14	—	27	1	40	2
2	—	15	—	28	—	41	—
3	—	16	—	29	—	42	—
4	—	17	—	30	1	43	1
5	—	18	—	31	—	44	—
6	—	19	—	32	—	45	—
7	—	20	—	33	1	46	—
8	—	21	—	34	—	47	1
9	—	22	—	35	—	48	—
10	1	23	—	36	3	49	—
11	—	24	—	37	1	50	—
12	1	25	—	38	—	51	—
13	—	26	1	39	—	52	—
						53	—
Total ..	2	Total ..	1	Total ..	7	Total ..	4

City total, 1933—14.

TABLE IV.

ENTERIC FEVER MORTALITY, 1933—RATE PER 1,000 LIVING, COMPARED WITH MEAN OF FIVE YEARS.

	1928	1929	1930	1931	1932	Mean	1933
England and Wales	0·01	0·01	0·01	0·01	0·01	**0·01**	0·01
London	0·01	0·01	0·01	0·01	0·00	**0·01**	0·00
CITY OF MANCHESTER ..	0·01	0·01	0·01	0·01	0·01	**0·01**	0·00

UNDULANT FEVER.

All blood specimens submitted to the Public Health Laboratory were examined for agglutination with Br. Abortus, the organism responsible for the occurrence of undulant fever in man.

One case of undulant fever occurred in a woman aged 55 years. On investigation it was revealed that the patient contracted the disease whilst residing outside the City area and the actual source remained undetermined.

CEREBRO-SPINAL FEVER.

Forty-five cases of cerebro-spinal fever were notified and accepted as such in 1933, the diagnosis being confirmed bacteriologically in 42 of them. The cases were widely spread over the city and no particular focus of infection was evident.

There were 24 deaths from this disease, giving a case mortality rate of 53·3 per cent., which compares with a rate of 66·6 per cent. in 1932.

As regards seasonal prevalence, 20 cases occurred in the first quarter of the year, 12 in the second, 6 in the third, and 7 in the last quarter.

Except in 3 instances all the patients were removed to Monsall Hospital and treatment by serum injected intrathecally was commenced at the earliest opportunity. There is evidence which shows the value of this treatment, especially when it can be given in the early stages of the illness. Further reference is made to the results obtainable by serum treatment in the section of this report dealing with Monsall Hospital on pp. 124 to 125.

Cases of Cerebro-spinal Fever in Age Groups and Sexes, 1933.

Age Groups	No. Cases Males	No. Cases Females	Total
0— 5 years	7	9	16
5—10 „	2	1	3
10—15 „	3	0	3
15—20 „	5	1	6
20—25 „	3	0	3
25—35 „	5	2	7
35 and over	3	4	7
All Ages	28	17	45

POLIOMYELITIS.

Particulars of notified cases of poliomyelitis for 1933 are given in the following table :—

Case	Sex	Age	Ward	Onset	Notified	Paralysis	Result—Jan., 193
1	M	13	St. Michael's	Jan. 13	Jan. 23	?	Died Jan. 22nd
2	M	2½	Newton H'th	June 21	June 23	Foot ..	Recovered
3	M	31	Wythenshawe	July 20	Aug. 4	Nil	Recovered
4	F	13	New Cross ..	July 21	Aug. 5	Legs and left arm	Died Aug. 14th
5	F	12	Crumpsall ..	Sept. 2	Sept. 4	Right leg	Recovered
6	F	18	Chorlton-cum-Hardy	Sept. 8	Sept. 11	?	Died Sept. 13th
7	F	5	Collyhurst ..	Sept. 27	Oct. 2	Nil	Recovered
8	M	23	Wythenshawe	Sept. 13	Sept. 27	Legs ..	Recovered

ENCEPHALITIS LETHARGICA.

Five notifications of encephalitis lethargica were received in 1933. The diagnosis was confirmed in two only and these related to cases of long standing, so that no instance of acute encephalitis lethargica came to our knowledge during the year.

Fourteen deaths were registered in which chronic encephalitis lethargica was declared to be a contributory cause. None of these cases had previously been notified.

Table I. shows the fate of encephalitis lethargica patients from 1919 to 1933. From the table it may be calculated that during the last 15 years notifications were received in regard to 728 persons ; 325, or 44·6 per cent., have since died ; 102, or 14 per cent., have apparently recovered ; 37, or 5 per cent., are untraceable ; and 265, or 36·4 per cent., remain alive but are either partially or totally disabled.

TABLE I.

FATE OF ENCEPHALITIS LETHARGICA PATIENTS, DECEMBER, 1919–1933.

(1) *Patients under the age of* 16 *at time of notification.*

Year	No. of cases notified	A	B No. suffering from sequelæ		No. (among B) in whom changes of character have occurred	No. (among B) in whom "Parkinsonism" has supervened	C No. of patients known to have died				D
		No. known to be alive and apparently well, Jan., 1929	Interfering with schooling or other occupation	Preventing normal schooling or normal occupation			0–1 months after onset	2–6 months after onset	7–12 months after onset	Over 1 year after onset	No. of patients untraced or unvisited
1919 ..	10	1	—	—	—	—	6	3	—	—	—
1920 ..	7	—	2	1	1	2	4	—	—	—	—
1921 ..	9	3	2	—	1	—	4	—	—	—	—
1922 ..	3	1	—	1	—	1	—	—	1	—	—
1923 ..	12	2	3	—	2	2	3	—	—	4	—
1924 ..	97	19	24	24	13	18	16	3	—	11	—
1925 ..	19	5	4	2	1	3	5	1	—	2	—
1926 ..	19	4	2	—	2	—	9	1	—	1	2
1927 ..	15	2	2	1	1	—	3	2	—	2	3
1928 ..	7	3	—	1	1	—	2	—	—	—	1
1929 ..	9	4	1	—	1	—	4	—	—	—	—
1930 ..	2	—	—	—	—	—	2	—	—	—	—
1931 ..	3	—	—	2	—	—	—	—	1	—	—
1932 ..	3	—	—	3	—	—	—	—	—	—	—
1933 ..	—	—	—	—	—	—	—	—	—	—	—

(2) *Patients over the age of* 16 *at the time of notification.*

Year	No. of cases notified	A	Interfering	Preventing	Changes of character	Parkinsonism	0–1 months	2–6 months	7–12 months	Over 1 year	D
1919 ..	—	—	—	—	—	—	—	—	—	—	—
1920 ..	12	—	2	1	—	3	5	3	—	1	—
1921 ..	22	4	5	3	2	4	6	3	1	—	—
1922 ..	6	1	1	—	—	1	—	—	2	1	1
1923 ..	24	4	4	1	2	3	9	4	—	2	—
1924 ..	147	30	21	29	2	21	18	14	3	19	13
1925 ..	59	6	7	15	2	13	7	7	2	14	1
1926 ..	72	2	8	30	1	20	10	2	1	13	7
1927 ..	50	2	8	10	—	11	10	2	1	11	6
1928 ..	43	6	7	7	—	3	6	6	2	9	—
1929 ..	28	3	5	1	—	3	5	1	1	9	3
1930 ..	21	—	—	9	—	—	2	3	1	6	—
1931	21	—	5	5	—	4	5	2	1	3	—

BACTERIOLOGICAL EXAMINATIONS MADE FOR THE COUNTY BOROUGH OF MANCHESTER DURING THE YEAR 1933, PUBLIC HEALTH LABORATORY, UNIVERSITY OF MANCHESTER.

Month	Diphtheria		Typhoid	Tuberculosis				Water	
				Sputum		Milk		Bacteriological	Chemical
	Total	+	Total	Total	+	Total	+	Total	Total
January	597	78	8	180	29	100	10	—	—
February	846	97	8	219	25	130	23	—	—
March	634	63	11	206	33	125	16	3	3
April..	701	91	14	144	15	81	11	—	—
May	859	99	11	203	31	123	8	—	—
June	694	59	13	108	22	81	6	9	9
July	688	41	11	111	16	79	7	—	—
August	660	71	14	115	31	92	8	—	—
September	745	104	15	122	19	127	5	17	17
October	871	86	27	168	27	143	13	—	—
November	818	91	10	150	21	125	13	—	—
December	583	60	3	137	14	66	11	18	17
Total	8696	940	145	1863	283	1272	131	47	46

Total specimens enumerated above—12,069. Other investigations 1,007, as under :—

Milks—Coli, etc.	466
,, Chemical examinations	124
,, For Abortus	1
Diphtheria, virulence tests	227
Swabs, microscopial examinations	3
Swabs, cultivation, hæmolytic streptococci, etc.	60
Fluids, etc., for tubercle bacilli	16
Urine and fæces, for typhoid group	70
Cerebro-spinal fluid, and swabs, meningitis	35
Foods, for food poisoning, etc.	2
Maternity outfit	3
	1,007

MEASLES AND GERMAN MEASLES.

	1933				
Cases Notified	1st quarter	2nd quarter	3rd quarter	4th quarter	Total
MEASLES—					
By Doctors	60	423	916	3,672	5,071
,, Others	15	120	282	862	1,279
Total	75	543	1,198	4,534	6,350
GERMAN MEASLES—					
By Doctors	68	131	46	56	301
,, Others	4	19	5	5	33
Total	72	150	51	61	334

The deaths from measles in successive years are shown in the following table :—

TABLE I.

DEATHS FROM MEASLES IN THE CITY OF MANCHESTER DURING THE TEN YEARS, 1924–1933.

	Under One Year			Years of Age				5 Years and upwards	Total deaths at all ages
Years	Under 3 Months	3-5 Months	6-11 Months	1–	2–	3–	4–		
1924	2	5	63	168	62	25	28	17	370
1925	2	0	25	46	24	17	9	6	129
1926	1	2	29	80	26	9	4	5	156
1927	1	5	39	65	23	14	9	8	164
1928	1	5	41	43	22	4	5	2	123
1929	0	1	17	28	4	6	2	2	60
1930	1	6	32	61	20	13	6	7	146
1931	2	5	4	28	11	8	2	5	65
1932	0	2	24	55	14	11	5	11	122
1933	0	0	7	23	4	4	5	5	48

TABLE 2.

INCIDENCE OF MEASLES IN MANCHESTER DURING THE YEAR 1933 ACCORDING TO AGE GROUPS.

Disease	Under 5 years	5 years and over	Total
Measles	4,207	2,143	6,350

TABLE 3.—MEASLES, DEATHS IN QUARTERS.

YEAR	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Whole Year
1901–1910 (mean)..	80	122	68	59	329
1911–1920 (mean)..	87	125	33	32	277
1921–1930 (mean)..	51	62	26	30	159
1921	1	2	0	2	5
1922	1	162	161	30	354
1923	13	42	21	7	83
1924	39	295	34	2	370
1925	17	27	8	77	129
1926	117	36	1	2	156
1927	3	2	11	148	164
1928	101	17	5	0	123
1929	4	7	19	30	60
1930	111	27	5	3	146
1931	3	9	3	50	65
1932	89	30	1	2	122
1933	1	2	6	39	48

Table 4.—Measles Mortality Rates.—Rate per 1,000 Living, compared with Mean of Five Years.

	1928	1929	1930	1931	1932	Mean 5 years	1933
England and Wales	0·11	0·08	0·10	0·06	0·08	**0·09**	0·05
118 Great Towns	0·15	0·12	0·15	0·07	0·11	**0·12**	0·06
London	0·30	0·04	0·23	0·07	0·19	**0·17**	0·02
City of Manchester ..	0·16	0·08	0·23	0·08	0·16	**0·14**	0·06
132 Smaller Towns......	0·08	0·06	0·08	0·05	0·06	**0·07**	0·04

WHOOPING COUGH.

The cases of this disease notified are obtained entirely through the schools and the same disabilities attach to this mode of notification as were experienced in measles. Notwithstanding, these notifications are useful. The cases are visited and dealt with by the Health Visitors in the same manner as cases of measles.

Whooping cough notifications during 1933:—

	First quarter	Second quarter	Third quarter	Fourth quarter	Total
1933	469	741	667	353	2,230

Table 1.

Whooping Cough Mortality.—Rate per 1,000 Living, compared with Mean of Five Years.

	1928	1929	1930	1931	1932	Mean 5 years	1933
England and Wales	0·07	0·15	0·05	0·06	0·07	**0·08**	0·05
118 Great Towns	0·09	0·19	0·05	0·07	0·08	**0·10**	0·06
London	0·09	0·26	0·03	0·07	0·08	**0·11**	0·08
City of Manchester	0·12	0·29	0·05	0·11	0·10	**0·13**	0·06
132 Smaller Towns........	0·06	0·15	0·05	0·05	0·06	**0·07**	0·04

TABLE 2.—WHOOPING COUGH, DEATHS IN QUARTERS.

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Whole Year
1911–1920 (Mean)..	59	73	24	17	173
1921–1930 (Mean)..	48	52	15	15	130
1921	40	78	31	20	169
1922	24	37	25	13	99
1923	48	113	12	11	184
1924	26	53	10	27	116
1925	89	81	23	13	206
1926	16	18	15	12	61
1927	72	35	9	8	124
1928	14	24	16	35	89
1929	142	61	9	8	220
1930	11	15	4	7	37
1931	31	15	18	22	86
1932	39	27	7	7	80
1933	16	14	8	9	47

TABLE 3.

INCIDENCE OF WHOOPING COUGH (KNOWN CASES) IN MANCHESTER DURING THE YEAR 1933 ACCORDING TO AGE GROUPS.

Disease	Under 5 years	5 years and over	Total
Whooping Cough	1,640	590	2,230

A COMPARISON OF MORTALITY FROM SCARLET FEVER, DIPHTHERIA, MEASLES, AND WHOOPING COUGH.

YEAR	WHOOPING COUGH		MEASLES		SCARLET FEVER		DIPHTHERIA	
	Known Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
1924	1,706	116	18,349	370	1,784	33	570	53
1925	3,333	206	7,941	129	2,869	63	1,040	91
1926	2,094	61	10,953	156	2,259	25	1,145	103
1927	2,244	124	13,987	164	1,823	20	1,208	91
1928	3,189	89	7,141	123	2,100	14	1,033	99
1929	4,037	220	9,512	60	2,318	11	761	57
1930	1,388	37	10,738	146	3,701	16	838	58
1931	3,150	86	7,771	65	2,913	8	573	60
1932	2,280	80	12,238	122	2,283	17	885	82
1933	2,230	47	6,350	48	1,773	18	732	86
Total	* 25,651	1,066	104,980	1,383	23,823	225	8,785	780
Manchester— Case fatality rate per cent.	4·2		1·3		0·9		8·9	

* It should be pointed out that the estimated number of cases (25,651) occurring during the 10 years does not represent all the actual cases. Since this disease is not notifiable by medical practitioners, many cases escape our notice.

DIARRHŒA.

TABLE 1.—1933.—DIARRHŒA AND SIMPLE CHOLERA MORTALITY: DEATHS UNDER TWO YEARS OF AGE PER 1,000 BIRTHS, COMPARED WITH THE MEAN OF FIVE YEARS.

	1928	1929	1930	1931	1932	Mean 5 years	1933
England and Wales	7·0	8·1	6·0	6·0	6·6	**6·7**	7·1
118 Great Towns	9·6	10·9	8·3	8·4	8·9	**9·2**	9·4
London	10·2	10·7	9·9	9·7	12·6	**10·6**	11·6
CITY OF MANCHESTER	15·3	13·7	11·5	12·0	8·6	**12·2**	8·6
132 Smaller Towns........	4·8	5·9	4·4	4·0	4·5	**4·9**	4·9

The number of deaths in successive years, and their distribution in quarters of the year, are exhibited in the following figures:—

TABLE 2.—DIARRHŒA AND SIMPLE CHOLERA DEATHS IN QUARTERS, 1924–1933.

	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
First Quarter ...	51	40	41	32	44	38	46	55	32	28
Second Quarter .	51	38	43	34	48	45	39	34	33	30
Third Quarter ...	46	93	60	49	42	38	26	28	27	17
Fourth Quarter .	63	56	93	36	64	58	42	31	24	21
	211	227	237	151	198	179	153	148	116	96

INFLUENZA.

An epidemic of influenza which occurred in January and February, 1933, was of shorter duration and, judging from the number of deaths, not quite so severe as that experienced in 1929.

Beginning in the last week of December, 1932, the epidemic reached its height in the week ending January 28th and continued until the week ending March 4th, a period of 10 weeks, compared with a duration of 14 weeks in 1929.

The infection was widely spread over all districts, but the incidence was greatest in St. Michael's, Collyhurst, and St. Clement's, a group of adjoining wards on the north central side of the City.

During the 10 weeks 703 cases of influenzal pneumonia were notified, and there occurred 453 deaths from all forms of influenza, of which 228 were of males and 225 of females.

Of the fatal cases 12·3 per cent. were of persons under 25 years of age, 21·6 per cent. of persons between the ages of 25 and 45 years, and 66·1 per cent. of persons over 45 years. Thus the mortality in the lower age groups was comparatively low.

INFLUENZA (HEALTH VISITORS' WORK).

The following figures relating to influenza, which are the result of the health visitors' investigations, cover the entire year; but it is interesting to note the effect of the epidemic on their findings for January and February, during which it reached its height.

Influenza is not notifiable, but 1,605 cases came to the notice of the department through various channels throughout the year, and 1,596 cases were investigated.

The health visitors paid 2,851 visits in respect of these 1,596 investigated cases, of which 1,527, or 95 per cent., occurred during January and February. For the month of March only 14 cases were recorded.

The distribution according to sex of the 1,596 cases investigated is as follows :—

	Males.	*Females.*	*Totals.*
Cases	736	860	1,596
Deaths	73	102	175

The case fatality rate for influenza uncomplicated by pneumonia was 10·9 per cent., but is slightly higher in the females than in the males, being 11·9 per cent. as compared with 9·9 per cent.

In addition to the above figures 885 cases of influenzal pneumonia were notified, thus the total known cases of influenza for the year was 2,490.

The distribution according to sex on the total figures in the investigated cases is, therefore :—

	Males.	*Females.*	*Totals.*
Cases	1,221	1,244	2,465
Deaths	268	261	529

From the picture presented in the age groups, both for this year and previous ones, the periods 1 to 9 years, and 25 to 44 years, would appear to be the vulnerable ones in both sexes for influenza. For influenzal pneumonia, although both sexes show a high incidence figure for the age period 1 to 4, the age period 25 to 64 is still higher.

INFLUENZA—AGE GROUPS (Investigated Cases).

Age Group.	*Males.*	*Females.*
Under 1 year	16	14
1 to 4 years	148	127
5 ,, 9 ,, ...	71	88
10 ,, 14 ,, ...	38	44
15 ,, 19 ,, ...	23	29
20 ,, 24 ,, ...	35	65
25 ,, 34 ,, ...	174	212
35 ,, 44 ,, ...	125	134
45 ,, 54 ,, ...	44	48
55 ,, 64 ,, ...	36	36
65 ,, 74 ,, ...	17	30
75 + ...	9	33
Totals ..	736	860

INFLUENZAL PNEUMONIA—AGE GROUPS (Investigated Cases).

Age Group.	*Males.*	*Females.*
Under 1 year	15	12
1 to 4 years	43	46
5 ,, 9 ,, ...	21	14
10 ,, 14 ,, ...	20	8
15 ,, 19 ,, ...	29	13
20 ,, 24 ,, ...	29	23
25 ,, 34 ,, ...	64	46
35 ,, 44 ,, ...	81	60
45 ,, 54 ,, ...	85	48
55 ,, 64 ,, ...	59	53
65 ,, 74 ,, ...	22	41
75 + ...	17	20
Totals ..	485	384

From available information the districts most affected by *influenza* appear to have been :—

Ardwick	81 cases	Rusholme	122 cases
Collyhurst	114 ,,	St. George's	84 ,,
Gorton South ..	94 ,,	St. Michael's	73 ,,
Levenshulme ..	76 ,,	Withington	96 ,,

The greatest number of cases of *influenzal pneumonia* appeared in the eight following districts :—

Ardwick	36 cases	New Cross	53 cases
Collyhurst	50 ,,	Newton Heath ..	101 ,,
Miles Platting ..	46 ,,	St. George's	42 ,,
Moston	33 ,,	St. Michael's	46 ,,

Thus although the southern side of the City appears to have had the greate number of cases of influenza, the northern side experienced a higher incidenc of influenzal pneumonia.

PNEUMONIA.

During 1933 the following notifications were received in respect o pneumonia :—

Primary pneumonia	Lobar	987	
	Lobular	742	
	Unclassified	5	
			1,734
Influenzal pneumonia			793
Secondary pneumonia			72
	Total		2,599

The total for the preceding year was 2,531.

In addition to the above, however, 487 deaths from pneumonia—386 primary 92 influenzal, and 9 secondary—all being un-notified cases, were brought t our notice through the death returns; thus the total number of know pneumonia cases for the year was 3,086, as compared with 2,999 for the previou year.

Primary Pneumonia.

Of the 2,120 known cases of primary pneumonia 1,099 were classified a lobar pneumonia, 996 as lobular pneumonia, and 25 simply as pneumoni The number of cases which were investigated was 2,075, and of these the case fatality was 31·8 per cent. for lobar pneumonia, and 46·05 per cent. for lobula pneumonia.

INFLUENZAL PNEUMONIA.

This year the 885 cases of influenzal pneumonia which came to our notice were almost treble the number for the preceding year. This increase may be accounted for by an epidemic of influenza, which, commencing in December, 1932, continued throughout the first two months of 1933 and dropped suddenly to 24 cases in March.

869 cases were fully investigated.

The case fatality was 40·7 per cent., and varied very little for either sex.

The distribution according to sex of these investigated cases of influenzal pneumonia, is as follows :—

	Males.	*Females.*	*Totals.*
Cases	485	384	869
Deaths	195	159	354

SECONDARY PNEUMONIA.

Secondary pneumonia is not notifiable, but the attention of the department has been directed to 81 cases during the year. These were investigated and were associated with the following diseases :—

Measles	38 cases
Whooping cough	38 ,,
Other diseases	5 ,,
Total	81 cases

The case-fatality was 10.9 per cent.

With sixteen exceptions the patients were all children under five years of age.

A table showing the number of known cases of pneumonia, together with the number investigated, is attached.

In connection with all forms of pneumonia the health visitors paid 6,801 visits.

Investigation was attempted in each notified case, but in 61 instances it was difficult to obtain any definite information. These cases were, therefore, written off as "uninvestigated."

1,461 cases were transferred to hospital, and of those nursed at home 279 were attended by a nurse supplied by the District Nursing Association.

Assistance in the form of milk was allowed in 135 necessitous cases, the total amount of milk granted being 2,553 pints.

TABLE SHOWING THE NUMBER OF PRIMARY, INFLUENZAL, AND SECONDARY PNEUMONIA CASES WHICH HAVE COME TO THE KNOWLEDGE OF THIS SECTION OF THE PUBLIC HEALTH DEPARTMENT DURING 1933.

THE TABLE ALSO SHOWS THE NUMBER OF NOTIFIED CASES, THE NUMBER OF CASES FULLY INVESTIGATED, AND THE TOTAL NUMBER OF KNOWN CASES.

	Notified Cases		Cases fully investigated		Cases not fully investigated		Total known Cases of Primary, Influenzal, and Secondary Pneumonia occurring in 1933	
(a) *Primary Pneumonia*—								
Notified Cases	1,734	2,120	1,705	2,075	29	45	Primary 2,120	3,086
Unnotified Cases (from Death Returns)	386		370		16			
(b) *Influenzal Pneumonia*—								
Notified Cases	793	885	783	869	10	16	Influenzal 885	
Unnotified Cases (from Death Returns)	92		86		6			
(c) *Secondary Pneumonia*—								
Notified Cases	72	81	72	81	—	—	Secondary 81	
Unnotified Cases (from Death Returns)	9		9					
Totals	3,086		3,025		61			

DYSENTERY.

No cases of dysentery were notified in 1933.

During the year the 11 cases of dysentery and 6 carriers which are known to the Department have been visited each six months. The investigation of the health of the members of the patients' families revealed no suspicious symptoms.

MALARIA.

No cases of malaria were notified in 1933.

ANTHRAX.

No cases of anthrax were notified during the year 1933.

FOOD POISONING.

Death due to food poisoning was certified in a boy aged 3½ years admitted to Pendlebury Children's Hospital at 2 a.m. on the 17th September, and who died four hours later. No post-mortem examination was carried out nor was any bacteriological investigation made.

The illness had commenced nine days earlier so that no reliable history of the food stuffs consumed about that date could be obtained.

On investigation it was found that four other persons residing at the deceased's home had had similar symptoms about the same time.

Samples of faeces and urine were obtained from these members but were found not to contain any organism of the typhoid-paratyphoid (food-poisoning) group.

On July 13th it was brought to the notice of this department that there had occurred in a city warehouse nine cases of tonsillitis. The first one became ill on the 7th July, seven on the 8th and one on the 11th.

All these cases partook of ice-cream purchased from a street vendor on the 5th July. His premises were inspected and found to be up to the standard required by the Public Health Committee.

Enquiry was made as to the health of the vendor and any other persons residing in his home. No history of any suspicious illness in any of the residents was obtained.

The illnesses were of a moderately severe type, most of the cases being off duty for some seven days. The chief symptoms were apparently sore throat and pains in the smaller joints.

PUBLIC HEALTH (MEAT) REGULATIONS, 1924.

These regulations, which came into force on May 1st, 1925, are administered by the Public Health Committee in so far as Part V., which relates to shops, stores, etc., is concerned. With a view to the equitable administration of the regulations, the co-operation of the interested trades was sought, and mutual agreement with the associations concerned was arrived at on the following points:—

Requirements.

1. Meat shall not be hung outside premises.
2. All meat which is displayed must be protected from the dust of the streets by glass windows.
3. Reasonable precautions must be taken to protect meat from flies.
4. The provision of a covered receptacle of suitable material for refuse and sweepings is imperative, and the receptacle must be kept clean.
5. Shops must be adequately ventilated.

Suggestions.

1. That means be adopted for keeping all prepared meats covered. (Transparent paper could be used with good effects.)
2. That each shop be provided with a cold store or ice box for the storage of meat.
3. Persons engaged in the sale or handling of meat should wear white overalls. (Coloured ones now in use when worn out to be replaced by white.)
4. That notices be exhibited in shops to the effect that foodstuffs should not be handled by customers.
5. That, wherever possible, vertical glass fronts be provided on counters to protect meat, etc., from contact with or handling by customers.
6. Particulars of structural arrangements required in premises where food is prepared may be obtained on application to the Medical Officer of Health.

These agreed conditions have greatly facilitated the administration of the Meat Regulations. This strikingly illustrates the value of conference between the Public Health Committee and accredited representatives of interested trades as a preliminary to administration of such regulations.

1,826 visits were paid during the year to meat shops by the special inspectors, and it was found that these requirements and suggestions were generally being carried out.

REPORT FROM MARKETS DEPARTMENT AS TO SUPERVISION OF MEAT AND OTHER FOODS.

The Medical Officer of Health is indebted to Mr. A. Chadwick, General Superintendent, for the following particulars relating to the operations of the Markets Department during the year ending 31st March, 1933.

At the City Abattoir and Wholesale Meat Market the business has considerably increased during the past 33 years, as is shown in Statement "A" attached.

The bulk of the meat, fish, fruit, etc., which is condemned is found to be unfit for food on arrival at the markets, railway stations, wholesale houses, etc., and by the system which operates of carrying out an efficient inspection at the centre of distribution, the risk of diseased meat, etc., being exposed in retail shops is lessened.

Statement " B " shows the total condemnations in the City, and Statement " C" the total weight of meat condemned at the City Abattoir.

Statement "A."

ANIMALS SLAUGHTERED AT CITY ABATTOIR DURING CERTAIN YEARS.

Year ending 31st March	Cattle	Sheep	Lambs	Calves	Pigs
1900	34,675	106,855	45,595	872	18,163
1910	38,389	193,855	57,553	2,179	10,486
1920	89,143	214,363	48,656	8,202	9,636
1921	44,278	116,407	46,004	6,432	12,747
1922	53,348	232,581	57,159	5,359	19,601
1923	65,138	222,875	97,087	5,631	17,897
1924	55,332	192,906	78,739	3,364	15,662
1925	60,171	252,382	80,474	3,667	19,168
1926	54,027	271,127	76,460	5,192	16,106
1927	55,054	275,571	94,173	5,401	13,623
1928	65,386	330,894	111,286	5,518	18,584
1929	68,510	308,361	134,489	5,343	18,803
1930	73,244	272,868	119,299	5,472	15,259
1931	64,354	240,219	106,091	5,246	14,945
1932	57,418	308,249	95,079	5,474	17,776
1933	56,083	337,398	135,202	6,079	15,460

Statement " B

TOTAL CONDEMNATION OF VARIOUS FOODSTUFFS DURING CERTAIN YEARS.

	1926	1927	1928	1929	1930	1931	1932	1933
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
eat	342	386¼	426	407¾	472¼	434¼	399¼	458
sh	91½	181¼	111¼	118½	98½	135	106¾	102½
uit	74¼	72½	31½	28½	20½	49½	42¾	24½
egetables	261½	149	81¾	132¾	199¼	179½	137¾	307
ggs (number)	14,739	2,595	15,781	786	1,150	..	4,149	..
ame (head)	1,342	1,789	2,089	1,097	645	338	122	147
oultry (head)	4,712	5,695	3,608	3,153	3,440	3,544	4,582	5,577½
abbits (head)	14,290	12,861	12,780	5,325	7,895	9,107	10,401	8,932

Statement "C."

MEAT CONDEMNED AT THE CITY ABATTOIR AND WHOLESALE MEAT MARKET DURING CERTAIN YEARS.

	1926	1927	1928	1929	1930	1931	1932	1933
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Total weight of meat condemned at the City Abattoir and Wholesale Meat Market	311¼	353¼	399	379	451¾	403¾	368	426½
Of which the weight of dressed meat consigned from places other than the City was ..	121¼	151½	136	142¾	167½	181¼	160	180¼
Included in which were Imported Offals amounting to	5¼	3½	5½	½	2½	2½	1	4½

AMOUNT OF UNWHOLESOME FOOD CONDEMNED DURING THE YEAR ENDED 31ST MARCH, 1933.

	1931-32	1932-33
MEAT:—	lbs.	lbs.
Beef	729,870	832,538
Mutton	32,115	37,236
Veal	21,364	26,463
Venison..	245	84
Pork	108,681	119,424
Imported Offal	2,095	10,401
	894,370 = 399¼ tons	1,026,146 = 458 tons
FISH:—		
Fish	204,542	202,957
Shellfish	34,890	26,647
	239,432 = 106¾ tons	229,604 = 102½ tons

FOOD CONDEMNED DURING THE YEAR—*continued*

	1931-32	1932-33
	HEAD	HEAD
GAME	122	147
POULTRY	4,582	5,577½
RABBITS	10,401	8,932
	LBS.	LBS.
FRUIT	95,657 = 42¾ tons	55,149 = 24½ tons
VEGETABLES	308,790 = 137¾ tons	687,771 = 307 tons
MISCELLANEOUS:—	NO.	NO.
Eggs	4,149	..
	LBS.	LBS.
Condensed Milk	401	104
Sundry Provisions	279	1,839

With the exception of the following, which were seized while deposited or exposed for sale, the above quantities were surrendered after being condemned by the Inspectors of the Department:—

	1931-32	1932-33
	LBS.	LBS.
Meat	128	327
Fish	11	1½
Fruit	..	2
Sundry Provisions	..	140
Condensed Milk	184	32
	HEAD	HEAD
Rabbits..	2	..
Poultry	..	10½

NOTE:—The term "surrendered" includes cases in which the Inspectors have discovered the diseased meat, etc., in the course of their duty, but in which, owing to salesman's acceptance of the Inspector's decision, it has been deemed unnecessary to obtain a magistrate's order prior to destruction.

VETERINARY AND MILK CONTROL SECTION.

By R. C. Locke, M.R.C.V.S., D.V.S.M. (Vict.),
Veterinary Officer.

The staff of this section comprises one Veterinary Officer, three Milkshops Inspectors and two clerks, and their duties are mainly concerned with the administration of the various acts and orders relating to the production, storage and distribution of milk and ice cream.

City Farms.

The number of farms within the city boundary shows a reduction, this being due to the development of land for housing on the south side of the city. It is probable that this number will be still further reduced in the near future. The health of the cattle on the farms has been good and no case of tuberculosis of the udder has been found on routine inspection. In the early part of the year one of the farms changed over from the production of "Grade A" milk to the production of "Certified" milk.

Country Farms.

Samples of milk from 927 farms situated outside the city boundary were taken during the year at various points within the city. This is the highest number of farms covered by samples taken within any one year in the records of the department, and on examination by the biological test 111 were proved to be infected with b. tuberculosis. The percentage of tuberculous infection, namely 11·97, shows a reduction on the percentage for 1932, which was 14·05—in fact the figure for the present year is the lowest since 1927. It is possible that the extraordinarily warm and dry weather experienced throughout the year has been a factor in the reduction of the incidence of tuberculosis.

During the year the Staffordshire County Council appointed a Veterinary Officer and it is probable that in the near future assistant Veterinary Officers will be appointed for the purpose of routine inspection of dairy herds in this county. It is to be hoped that the time is not far distant when every county will arrange for the regular and frequent veterinary inspection of dairy herds as this cannot fail to have a good effect on the health and cleanliness of the cattle concerned.

Examinations of the herds at the 111 farms from which positive samples were obtained resulted in 10 cows being condemned on clinical examination, 32 tuberculous cows being discovered on microscopical examination of the milk, 41 on the submission of the milk to the biological test and in 52 cases the source of the infection had been removed from the farm prior to the visit of the Veterinary Officer.

City Dairies and Milkshops.

The Milkshops Inspectors have paid 5,482 visits of inspection to dairies and milkshops during the year, an increase of 278 over the figure for 1932. Generally speaking, the standard of cleanliness has been maintained at a high level.

The sale of milk in bottles continues to increase but it is unfortunate that such sale is not confined to suitable registered premises owing to a clause in the Milk and Dairies (Consolidation) Act, 1915, which gives exemption to shops from which only bottled milk is sold. There is no doubt that this sale is being carried on from many undesirable premises which would certainly not be granted registration for the sale of loose milk. The important underlying fact in this connection is that much of the bottled milk on the market is not sealed in a manner which prevents the access of dirt or other contamination to the milk.

During the year the Milkshops Inspectors have taken 856 samples of milk from various sources in addition to 66 samples of "Certified" and "Grade A (Tuberculin Tested)" milks on behalf of the Ministry of Health.

It was found necessary to institute proceedings against a number of persons who were guilty of carelessness in the conduct of their milk businesses. The offences are detailed in Table IV. A penalty was inflicted in each case.

Ice Cream.

The improvement mentioned in the Annual Report for 1932 in the conditions under which ice cream is manufactured and sold has been maintained and many new satisfactory premises have been registered. The number of premises on the register increased from 260 to 394 during the year. The Milkshops Inspectors paid 2,491 visits to ice cream premises, an increase of 317 over the previous year and the general improvement in the conditions found is reflected by the decrease in the number of warnings issued for unsatisfactory conduct of the business.

Three prosecutions were instituted against persons who did not take the necessary precautions to prevent the ice cream becoming contaminated. In each case a conviction was obtained.

Manchester Corporation Hospitals' Milk Supply.

Continuing the policy adopted in 1930 milk pasteurised under licence of the Ministry of Health has been supplied to certain Corporation hospitals and institutions. Strict supervision, both at the pasteurising establishments and by the regular examination of samples of milk, has been carried out. The policy has now had a sufficient period of trial and since its inception a marked improvement in the quality of the milk supply of these establishments has been recorded. During this time also there has been no instance of tuberculous infection and there can be no doubt that the supply has proved eminently satisfactory.

Monsall Hospital and Rose Hill Convalescent Home have received raw milk of the same standard as for some years past. This milk has been sampled regularly with satisfactory results.

The supply of milk to Langho Colony and Booth Hall Hospital, which is produced at the farms attached to the former establishment, was found on one occasion to be tuberculous. Investigation revealed that two cows were giving tubercle bacilli in their milk and these animals were duly removed from the herd and slaughtered. With this exception the high standard of purity of this supply has been maintained. It has not been possible for the Veterinary Officer to examine the herds at these farms regularly owing to pressure of other work and arrangements have been made by the House Committee for the examination to be carried out monthly by a local veterinary surgeon.

The milk produced at the Abergele Sanatorium farm has been of excellent quality and cleanliness throughout the year and the herd has been under the continual supervision of the Veterinary Officer. Samples of the milk have been examined monthly for the presence of tubercle bacilli and for general bacterial content. In no sample were tubercle bacilli found whilst the bacterial count of the milk from each of these farms is invariably low and in the great majority of the results comes well within the limits of bacterial content prescribed for certified milk.

APPENDIX.

Table I.

Particulars of Visits to Farms.

City Farms.	
Total number of farms in city .. .. accommodation for 1,570 cows.	62
Number of visits paid to farms by Veterinary Officer	112
,, cowsheds inspected	269
,, cows examined	1,363
,, cows suffering from tuberculosis of the udder..	0
Country Farms.	
Number of visits paid to farms by Veterinary Officer	86
,, cowsheds inspected	232
,, cows examined	1,891
,, cows found with tuberculous udders	83
,, cows removed from farms prior to visits of Veterinary Officers	

TABLE II.
PARTICULARS OF MILK SAMPLES.

Samples Examined for Tubercle Bacilli.	
Collected by Food and Drugs Inspectors at—	
(*a*) Railway stations	46
(*b*) Vehicles entering the city by road	765
Collected by Milkshops Inspectors at—	
(*a*) Hospitals and institutions	22
(*b*) City dairies and milkshops	99
(*c*) Vehicles	302
(*d*) Railway stations	10
Number of samples taken at corporation farms	33
Samples Examined for Chemical Analysis, Bacterial Count, Bacillus Coli, etc.	
Collected by milkshops inspectors at hospitals, dairies, vehicles, etc.	*594
Collected by milkshops inspectors on behalf of the Ministry of Health	66

* Of these, 171 were also examined for Tubercle Bacilli.

TABLE III.
ANALYSIS OF FARMS TESTED FOR TUBERCLE BACILLI IN MILK DURING THE YEAR

County	No. of farmers represented by samples of milk	No. of farmers sending tuberculous milk	Percentage
Cheshire	442	64	14·48
Lancashire	125	13	10·40
Derbyshire	146	10	6·85
Staffordshire	157	23	14·65
Shropshire	16	..	..
Westmorland	..	..	..
Cumberland	3	..	..
Montgomeryshire	11	..	..
Yorkshire	27	1	3·70
Totals	927	111	11·97

Table IV.

The Milk and Dairies (Consolidation) Act, 1915, The Milk and Dairies (Amendment) Act, 1922, and Orders.

Number of	registered premises—December 31st, 1933	1,001
,,	visits to dairies and milkshops by Milkshops Inspectors	5,482
,,	applications for registration approved	87
,,	applications for registration refused	15
,,	persons removed from register by resolution of CityCouncil	4
,,	milk vessels found uncovered	23
,,	milk vessels found dirty	13
,,	milkshops found dirty	28
,,	premises found in disrepair	9
,,	premises with unsatisfactory washing accommodation	14
,,	milk conveyances found dirty	15
,,	milk conveyances without name and address	11
,,	milk purveyors found bottling milk in street	1
,,	sites inspected for new dairies	12
,,	persons warned for opening bottles of milk	11
,,	prosecutions taken in respect of bottling milk in street	2
,,	prosecutions taken in respect of persons selling milk not being registered for such purpose	7
,,	prosecutions in respect of the use of unregistered premises	12
,,	prosecutions taken in respect of using vehicle without name and address on same	6
,,	prosecutions in respect of not taking precautions to prevent contamination of milk	13
,,	prosecutions in respect of not washing utensils as soon as may be after use	2
,,	prosecutions in respect of the use of dirty vehicles	4

Table V.

Milk (Special Designations) Order, 1923.

Licences issued during the year.

Producer's licence to use the designation "Grade A"	1
Dealer's licence to use the designation "Certified"	12
Dealer's licence to use the designation "Grade A (Tuberculin Tested)"	15
Dealer's licence to use the designation "Grade A"	6
Dealer's licence to use the designation "Pasteurised":—	
(*a*) Pasteurising establishments	15
(*b*) Shops	—
Supplementary licence to use the designation "Certified"	1
Supplementary licence to use the designation "Grade A (Tuberculin Tested)"	1
Supplementary licence to use the designation "Grade A"	6
Supplementary licence to use the designation "Pasteurised"	2

TABLE VI.

ICE CREAM.

Number of registered premises, 31st December, 1933—		
Purpose.		
Manufacture for sale	23	
Sale	304	
Manufacture for sale and sale ..	67	
		394
Number of visits to ice cream premises by milkshops inspectors..		2,491
„ applications for registration approved		134
„ applications for registration refused		99
„ sites for new premises inspected		38
„ persons warned for using dirty utensils		21
„ „ „ leaving ice cream mixture uncovered		29
„ „ „ having dirty clothing		4
„ „ „ using dirty premises		5
„ premises found unregistered		30
„ „ with unsatisfactory washing accommodation		1
„ persons prosecuted for not taking precautions to prevent contamination of ice cream		3

Table VII.

Tuberculous Infection in Milk 1901—1933.

Year	Number of farmers represented by samples of milk	Number of farmers sending tuberculous milk	Percentage	Percentage of Farmers from each county whose Milk was proved to contain Tubercle Bacilli.								
				Cheshire	Derbyshire	Staffordshire	Shropshire	Lancashire	Yorkshire	Cumberland	Montgomeryshire	Westmorland
1901 ..	272	27	9·90	10·46	9·23	8·00	10·00	..	..	..	..	..
1902 ..	345	36	10·40	12·72	8·65	4·01	..	8·31	..	..	..	..
1903 ..	329	45	13·60	14·76	9·58	15·15	40·00	..	..	..	..	..
1904 ..	318	29	9·10	11·17	6·02	..	..	7·14	25·00	..	..	..
1905 ..	565	47	8·30	10·26	6·00	6·38	..	2·98	12·50	..	..	..
1906 ..	542	42	7·70	8·60	6·50	9·30	12·50	4·00	..	..	..	..
1907 ..	562	38	6·76	7·71	4·48	6·94	12·50	3·70	..	..	..	..
1908 ..	289	27	9·34	11·56	6·25	7·70	..	2·94	12·50	..	..	..
1909 ..	535	31	5·79	4·80	7·47	8·57	11·11	3·33	..	..	..	..
1910 ..	468	30	6·41	6·20	8·69	5·55	..	..	..	..	..	..
1911 ..	494	51	10·32	11·11	2·50	12·12	10·00	12·20	50·00	..	..	..
1912 ..	484	54	11·15	12·94	4·00	10·20	33·33	6·00	10·00	..	..	..
1913 ..	486	60	12·51	13·99	11·58	9·26	33·33	5·88	20·00	..	..	..
1914 ..	352	34	9·66	12·39	8·19	..	..	2·77	..	..	..	..
1915 ..	69	9	13·04	16·21	..	..	..	13·63	..	..	..	..
1916 ..	321	38	11·83	11·59	8·80	13·04	..	6·97	..	..	..	..
1917 ..	365	37	10·13	13·54	9·30	4·30	..	11·70	..	..	..	..
1918 ..	288	18	6·25	8·17	5·12	4·16	..	3·57	..	..	..	..
1919 ..	240	20	8·30	8·84	8·00	4·55	..	8·10	..	..	..	..
1920 ..	194	29	14·94	18·75	10·71	..	..	5·88	..	..	..	..
1921 ..	305	37	12·13	16·23	4·17	..	..	10·52	..	..	..	..
1922 ..	243	21	8·64	10·52	6·34	6·66	..	3·57	..	..	..	..
1923 ..	296	33	11·14	12·94	7·14	10·34	..	9·75	..	..	..	..
1924 ..	453	43	9·49	10·80	8·69	8·82	..	5·12		..	..	..
1925 ..	292	24	8·21	10·00	11·86	4·34	..	..	..	..	..	..
1926 ..	474	49	10·33	12·26	11·76	6·94	..	5·76	..	..	..	..
1927 ..	604	67	11·09	14·11	4·62	6·52	..	14·81	..	..	..	..
1928 ..	694	122	17·57	18·10	24·50	16·83	33·33	10·00	..	22·22	50·00	..
1929 ..	697	88	12·62	12·85	13·0	13·84	..	9·89	42·85	..	..	..
1930 ..	750	107	14·26	17·01	14·28	11·62	..	8·10	..	..	..	..
1931 ..	896	145	16·18	20·13	16·77	7·85	20·00	15·78	..	..	..	..
1932 ..	818	115	14·05	17·39	8·51	11·42	5.00	12·63	8·33	..	20·00	..
1933 ..	927	111	11·97	14·48	6·85	14·65	..	10·40	3·70	..	..	..
Total..	14,967	1,664	11·11	..	..	..	..	..	..	..	..	

TABLE VIII.

ANALYSIS OF SAMPLES OF MILK TESTED AND RESULTS OF INVESTIGATIONS AT FARMS DURING THE YEAR.

SOURCE OF SAMPLES			NUMBER OF SAMPLES EXAMINED FOR TUBERCLE BACILLI				Number of visits paid to Farms	Number of Cows Examined	COWS WITH TUBERCULOUS UDDERS			
			Primary and Subsequent	Control	Total	Positive Results			Condemned on Clinical Examination	Discovered on Microscopical Examination of Milk	Discovered on Biological Examination of Milk	Removed from Farm prior to visit
By Food and Drug Inspectors	Railway Stations		45	1	46	2	..	..	..	..	..	..
	Carts and City Dairies ..		686	79	765	*90	..	..	..	..	..	..
By Milkshops Inspectors	Hospitals and Institutions..		20	2	22	†2	..	..	..	..	..	..
	Vehicles, City Farms, City Dairies, and Railway Stations		387	24	411	§37	..	..	..	..	..	..
By Veterinary Officer	Country Farms	Individual	..	..	..	..	86	1,891	10	32	41	52
		Group ..	..	..	..	..						
	City Farms	Individual	..	..	..	..	112	1,363	..	..	..	..
		Group ..	..	..	..	..						
	Corporation Farms	Individual	21	..	21	3	..	..	..	..	..	..
		Mixed ..	12	..	12	1	..	..	..	..	..	..
	Totals		1,171	106	1,277	135	198	3,254	10	32	41	52

* Includes 14 control samples.

† Includes 1 control sample.

§ Includes 3 control samples.

TUBERCULOSIS.

By Dr. D. P. Sutherland, Senior Tuberculosis Officer.

In the report for the year 1933 it is to be noted that the death-rate from all forms of tuberculosis has declined, the deaths from pulmonary tuberculosis being 1·00 per 1,000 population, this being the rate as for 1932, and from non-pulmonary tuberculosis ·15, as compared with 0·17 for the year 1932.

Pulmonary Tuberculosis.

Males.—The death-rate for males is 1·25, which shows a rise from 1·23 in 1932. It was pointed out in the latter year that the diminution in mortality was a large one and from past experience could not be expected to continue so rapidly. The present slight increase is probably not significant. It is interesting to note that the groups mostly affected by the increase are those in the age periods of 25—44 years.

Females.—The death-rate is the lowest recorded at any time, being ·78. The improvement here is noted in ages 0—14, 20—34, and 55 and upwards. In the group 15—19 there is an increased mortality, as there is also at ages 35—54 as compared with 1932.

The importance of early notification is again emphasised in order that treatment may be given at a stage when there is the greatest prospect of recovery.

Non-Pulmonary Tuberculosis.

There is again a record low figure in the mortality from this form of tuberculosis. The balance year by year is illustrated here by the fact that although the total figure for males and females is reduced there is a slight increase in the female mortality and a decrease in the male deaths as compared with 1932.

It may be recalled that in the latter year, also one showing a record low death-rate, the proportions were reversed, the chief diminution being due to a lower female rate.

The provision of over 200 specially equipped beds at the Manchester Children's Sanatorium, Abergele, is undoubtedly now having its part in reducing the mortality, and, as was hoped, it has also been the means of securing more complete notification.

Notification.

The total notification rate for all forms of tuberculosis was again the lowest recorded, being 1·80 as compared with 1·93 in 1932, a decrease of ·13. The pulmonary notification rate was 1·40, as compared with 1·41 in 1932, and non-pulmonary rate ·40, as compared with ·52 in 1932.

These figures are satisfactory in their direct evidence of the diminution of cases. In regard to pulmonary tuberculosis they are significant to a still greater degree from their implications. Thus, last year it was pointed out that violent fluctuations in rates of notification were not of so great value for indicating satisfactory progress as were steadier figures, and it may be repeated that at present the greatest measure of resistance and recovery is associated with a gradually declining death rate and a fairly steady notification rate.

The lowered notification rate is due to a diminution in the recorded number of cases amongst females. In the previous year (1932) the lowered rate occurred amongst both males and females, far the greater reduction was in the numbers of males. For this year the total notification for males is increased.

Summarising these results we find that once again new low records of deaths and notification in tuberculosis have been maintained.

There are several factors associated with the toll taken by tuberculosis, and much stress is quite properly laid upon such conditions as poverty, bad housing, overcrowding, undernourishment, etc.

One very potent influence to which special attention should be directed is the effect of atmospheric pollution.

Weather and Tuberculosis.

The smoke pall which is constantly present to a greater or less degree over this district has several adverse effects. It records its presence permanently in the rapid blackening and deterioration of buildings ; it reduces by something like 50 per cent. the actinic value of the available sunlight, and in winter it leads to the formation of fog. The sufferers from tuberculosis have their respiration already embarrassed by disease, and their breathing is made more difficult and distressing by the acute irritation of air-borne impurities. Further inflammation results, resistance is broken down, toxæmia increases, and heart failure follows.

Fog, as an inimical and fatal climatic condition, is a man-made evil. The low temperatures with which it is associated do not in themselves have the deleterious influence which the true fog possesses in cases of tuberculosis of the lung.

Pulmonary tuberculosis is an illness in the main of long duration, and in this respect it is distinct from the more acute respiratory affections of whose sufferers the winter months take a high toll. It is possible, therefore, to plot out a mean death-rate over a period of twelve months and to show how this is influenced by the occurrence of periods when fog is prevalent, and further to demonstrate the more immediate mortality caused. This can be set out in the following way for the year 1933.

During the fogless period from the middle of April to the third week in September the average number of weekly deaths was 12·7. During the fogless winter weeks the average was 14·4, not a very marked difference in view of the remarks that follow, and probably very little, if at all, influenced by the lowered temperature of this season.

During the winter weeks when fog was recorded the average deaths mounted to 16·5.

The following chart shows in a quite convincing way the association of these fogs with the increased deaths from tuberculosis. It illustrates also the immediate influence upon the mortality, as the greater number of deaths occur in almost every instance in the weeks when the fogs are more intense. After each visitation of fog with its accompanying death roll there remains also for a time an abnormally raised mortality, due in my opinion directly to the fog's influence. It has been stated that the temperature conditions do not appear to be a serious factor, and this receives support from the records. These show that in no instance is the lowest mean temperature coincident with the highest death rates. It is to be noted that this observation does not apply to other respiratory deaths, and the low temperatures do certainly appear to be associated directly in these non-tubercular illnesses with increased mortality. But many diverse factors would have to be considered here, as the group of diseases mentioned is a very varied one and the influence of the infective agencies, the acuteness of the illness—the age of the patients—the duration of disease, might all have a bearing.

Another way of considering this question of temperature and fog is as follows :—

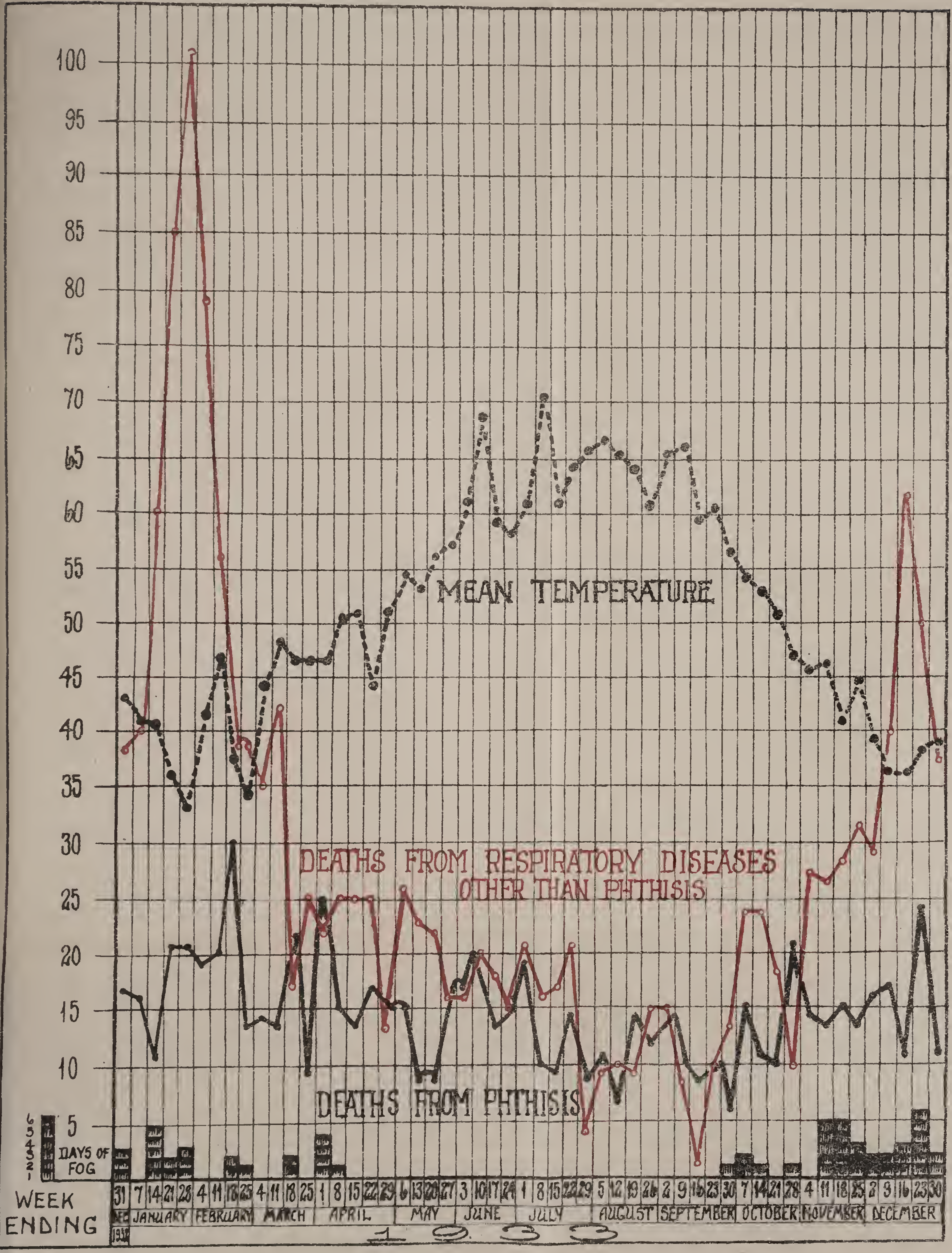
The highest mortality from pulmonary tuberculosis in consecutive foggy weeks occurred at the beginning of the year. These deaths averaged 22 a week. The mean temperature in these six weeks was 38·9° F.

The coldest six weeks of the year gave a mean temperature of 35·4° F., and these again were all weeks with fog occurring. The deaths in these six weeks averaged 18·8.

In the first of these periods of six weeks there were fourteen foggy days, and in the second thirteen foggy days. The resulting findings, therefore, are that the mortality is increased from 18·8 to 22 a week in that period of six weeks when fog was a little more prevalent, *i.e.*, fourteen as compared with thirteen days, but when the mean temperature was 3·5° F. higher.

The lowered temperature, apart from its influence in causing fogs, did not in any way produce an ill effect as measured by the deaths.

TABLE FOR THE YEAR 1933 SHOWING :-
1 - NUMBER OF DEATHS WEEKLY FROM PHTHISIS (PULMONARY TUBERCULOSIS).
2 - NUMBER OF DEATHS WEEKLY FROM OTHER RESPIRATORY DISEASES.
3 - DAYS OF FOG IN EACH WEEK OF THE YEAR.
4 - MEAN WEEKLY TEMPERATURE.



Finally, the six weeks of highest mortality gave weekly average deaths of 3·8 ~~3·28~~. During this six weeks there were 19 days of fog. The mean temperature during this period was 39·4° F. This again supports the findings arrived at above in other ways.

The conclusion to be drawn is perfectly clear. It is that the presence of fog has a definitely proved influence in causing deaths from pulmonary tuberculosis. These deaths are brought about in many instances immediately the fog occurs, in some cases within a few days. In others death is accelerated, and though not occurring so immediately the end is undoubtedly hastened.

The causation of fog is well known and preventable, and increased efforts are called for in order to secure its diminution and the diminution of the death roll due to it.

The statistical tables for the year are set out in the following pages :—

TABLE 1.

Rates per Thousand of the Population.

COMPARATIVE FIGURES.

	1926	1927	1928	1929	1930	1931	1932	1933
eath Rates :—								
General	13·28	13·90	13·06	15·51	13·07	13·86	13·03	13·41
ll respiratory diseases (except tuberculosis) ..	2·61	2·93	2·42	3·25	2·10	2·59	1·98	1·97
uberculosis (all forms) ..	1·41	1·38	1·29	1·4	1·37	1·29	1·17	1·15
hthisis, both sexes	1·19	1·15	1·10	1·21	1·15	1·12	1·00	1·00
,, males only	1·58	1·41	1·42	1·54	1·41	1·43	1·23	1·25
,, females only ..	·84	·92	·80	·91	·91	·82	·79	·78
Non - pulmonary tuberculosis, both sexes ..	·22	·22	·19	·19	·22	·17	·16	·15
berculosis Notification Rates :—								
All forms	2·44	2·53	2·51	2·28	2·23	2·32	1·93	1·80
Pulmonary only	1·84	1·88	1·87	1·79	1·64	1·67	1·41	1·40
Non-pulmonary only ..	·60	·65	·64	·48	·59	·65	·52	·40

TABLE 2.

NEW CASES AND DEATHS DURING 1933.

Age Periods	New Cases				Deaths			
	Pulmonary		Non-Pulmonary		Pulmonary		Non-Pulmona	
	M.	F.	M.	F.	M.	F.	M.	F.
0	2	1	4	2	1	1	4	3
1	5	6	28	18	3	1	12	14
5	9	8	37	33	2	1	5	8
10	9	18	15	26	1	6	3	3
15	51	74	15	18	21	47	9	9
20	79	91	15	18	39	66	3	4
25	135	118	20	15	82	77	5	8
35	120	56	11	16	105	56	4	7
45	146	42	4	9	106	40	4	3
55	67	18	5	3	79	16	2	1
65 and upwards ..	19	7	..	1	15	8	1	2
Totals ..	642	439	154	159	454	319	52	62

The number of non-notified deaths from pulmonary tuberculosis was 20 = 2·58 per cen

The number of non-notified deaths from non-pulmonary tuberculosis was 21 = 18·4 per cent.*

The percentage of non-notified deaths from all forms of tuberculosis was 4·62.

There were, in addition, 6 deaths of non-notified cases outside Manchester whic were adjudged by the Registrar-General to be properly referable to this area.

* It is to be noted that 8 of the 21 cases were certified as cases of tubercular meningiti These cases as a rule have a very short illness and diagnosis is frequently in dou during life.

PRIMARY NOTIFICATIONS AND DEATHS FROM PULMONARY TUBERCULOSIS, 1917–1933.

TABLE 3.

Age—Groups.

Pulmonary Tuberculosis	0–	1–	5–	10–	15–	20–	25–	35–	45–	55–	65–	TOTAL Notifications	TOTAL Deaths
Notifications, 1917—1923 . .	37	277	788	772	1139	1146	2241	2276	1744	846	366	11632	
Deaths, ,, ,, . .	25	99	83	186	651	695	1232	1551	1441	701	299		6963
Notifications, 1924	2	30	81	90	174	175	297	298	237	97	28	1509	
Deaths, ,, ...	3	8	4	13	91	97	168	218	188	86	30		906
Notifications, 1925	7	41	70	97	152	178	279	269	254	122	35	1504	
Deaths, ,, ...	3	13	8	14	109	97	179	193	234	105	42		997
Notifications, 1926	14	39	43	68	165	188	282	254	217	104	33	1407	
Deaths, ,, ...	6	21	6	9	66	106	171	200	186	99	35		905
Notifications, 1927	3	36	75	81	138	186	251	275	245	114	34	1438	
Deaths, ,, ...	3	15	9	14	83	110	157	159	198	101	32		881
Notifications, 1928	3	16	63	66	144	158	319	258	233	149	29	1438	
Deaths, ,, ...	2	8	6	12	65	109	161	167	182	100	31		843
Notifications, 1929	1	18	38	43	146	191	294	254	235	135	30	1385	
Deaths, ,, ...	1	7	3	7	76	117	179	190	191	121	38		930
Notifications, 1930	2	11	55	37	147	184	263	227	203	122	36	1287	
Deaths, ,, ...	6	2	6	9	89	110	200	150	168	129	34		903
Notifications, 1931	1	10	75	63	143	191	263	209	191	113	26	1285	
Deaths. ,, ...	3	4	6	10	67	111	195	151	166	109	33		855
Notifications, 1932	1	24	32	28	146	158	234	194	172	74	24	1087	
Deaths, ,, ...	2	17	2	10	52	114	151	136	167	91	28		770
Notifications, 1933	3	11	17	27	125	170	253	176	188	85	26	1081	
Deaths, ,, ...	2	4	3	7	68	105	159	161	146	95	23		773
Total notifications	74	513	1337	1372	2619	2925	4976	4690	3919	1961	667	25053	
Total deaths	56	198	136	291	1417	1771	2952	3276	3267	1737	625		15726

PRIMARY NOTIFICATIONS AND DEATHS FROM NON-PULMONARY TUBERCULOSIS, 1917–1933.

TABLE 4.

Age—Groups.

Non-pulmonary Tuberculosis	0–	1–	5–	10–	15–	20–	25–	35–	45–	55–	65–	TOTAL	
												Notifications	Deaths
Notifications, 1917—1923 . . Deaths, ,, ,, . .	134 192	825 526	941 226	805 214	560 176	288 99	300 104	205 99	152 83	110 54	63 47	4383	1820
Notifications, 1924 . . . . Deaths, ,, ...	20 24	127 82	128 17	102 23	91 27	49 18	49 13	25 7	14 10	7 6	11 2	623	229
Notifications, 1925 . . . . Deaths, ,, ...	13 16	129 55	139 22	113 13	79 16	37 12	44 16	24 8	27 14	10 10	7 2	622	184
Notifications, 1926 . . . . Deaths, ,, ...	17 15	86 45	82 20	81 18	63 16	38 12	38 15	23 13	23 8	6 5	6 3	463	170
Notifications, 1927 . . . . Deaths, ,, ...	11 9	96 47	107 19	75 14	60 19	47 15	47 16	28 8	15 16	12 5	5 4	503	172
Notifications, 1928 . . . . Deaths, ,, ...	12 11	74 35	112 19	71 15	71 14	46 7	47 19	26 15	18 4	8 6	5 4	490	149
Notifications, 1929 . . . . Deaths, ,, ...	11 13	65 31	78 17	40 10	55 18	28 17	44 16	27 10	13 3	9 11	5 6	375	152
Notifications, 1930 . . . . Deaths, ,, ...	17 10	89 49	108 20	63 9	46 23	42 16	41 13	20 11	20 14	16 3	4 6	466	174
Notifications, 1931 . . . . Deaths, ,, ...	10 10	83 43	95 11	87 9	67 16	40 2	55 16	22 9	23 5	6 6	8 5	496	132
Notifications, 1932 . . . . Deaths, ,, ...	6 7	69 38	86 20	49 10	55 12	33 7	45 10	30 4	18 8	8 5	3 5	402	126
Notifications, 1933 . . . . Deaths, ,, ...	6 7	46 26	70 13	41 6	33 18	33 7	35 13	27 11	13 7	8 3	1 3	313	114
Total notifications . . . . Total deaths	257 314	1689 977	1946 404	1527 341	1180 355	681 212	745 251	457 195	336 172	200 114	118 87	9136	3422

TABLE 5.

PRIMARY NOTIFICATIONS OF PULMONARY AND NON-PULMONARY TUBERCULOSIS RECEIVED FROM MUNICIPAL WARDS DURING 1933

Wards	Pulmonary	Non-Pulmonary	Totals
1. Exchange	—	—	—
2. New Cross	61	15	76
3. St. Clement's	7	3	10
4. Oxford	1	1	2
5. St. John's	10	—	10
6. St. Ann's	1	1	2
7. St. Michael's	58	7	65
8. Collyhurst	35	15	50
9. Cheetham	33	9	42
10. Collegiate Church	28	6	34
11. Crumpsall	18	4	22
12. Blackley	17	10	27
13. Harpurhey	23	3	26
14. Moston	26	9	35
15. Newton Heath	26	9	35
16. Miles Platting	36	7	43
17. Bradford	36	12	48
18. Beswick	44	9	53
19. Ardwick	32	10	42
20. Openshaw	50	10	60
21. St. Mark's	31	22	53
22. Longsight	24	7	31
23. All Saints'	51	15	66
24. St. Luke's	49	14	63
25. Medlock Street	47	9	56
26. St. George's	37	6	43
27. Moss Side East	38	13	51
28. Moss Side West	24	10	34
29. Chorlton-cum-Hardy	47	17	64
30. Didsbury	28	5	33
31. Withington	44	19	63
32. Gorton North	25	14	39
33. Gorton South	33	10	43
34. Levenshulme	24	1	25
35. Rusholme	26	4	30
36. Wythenshawe	11	7	18
Total—City of Manchester	1,081	313	1,394

TABLE 6.

SOURCES OF NOTIFICATION OF TUBERCULOSIS DURING 1933.

Source	Pulmonary	Non-Pulmonary	Totals
Crumpsall Hospital	74	10	84
Withington Hospital	125	7	132
Booth Hall Hospital..	6	35	41
District Medical Officers	2	1	3
Manchester Royal Infirmary	35	59	94
Ancoats Hospital	16	18	34
Skin Hospital	—	24	24
St. Mary's Hospital	2	1	3
Northern Hospital	2	2	4
Jewish Hospital	4	—	4
Pendlebury Hospital	6	13	19
Babies' Hospital	2	8	10
Hulme Dispensary	1	—	1
Gartside Street Dispensary	3	9	12
Hardman Street Dispensary	14	—	14
Asylums	8	1	9
Schools	—	24	24
Tuberculosis Staff	80	20	100
Military	6	1	7
Various Sources	32	11	43
Private Practitioners	663	69	732
Child Welfare Centres	—	—	—
Swinton House	—	—	—
Total	1,081	313	1,394

241 tenants have allowed the removal of bedding, etc., for disinfection or destruction.

89,604 cardboard boxes have been prepared in the office and supplied to patients for spitting purposes in the home.

593 sputum bottles have been supplied for use outside the house.

15,387 visits have been made by the Enquiry Officers during the year.

53,138 letters were sent out.

758 notices warning against spitting on floors, etc., have been supplied to offices and workshops.

TABLE 7.

SOURCES OF PRIMARY NOTIFICATION OF NON-PULMONARY CASES FOR THE YEARS 1918 TO 1933.

Source	1918–1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Crumpsall Hospital	133	34	24	13	14	16	20	20	20	19	10
Withington Hospital	112	29	22	20	11	13	16	21	18	13	7
Booth Hall Hospital	254	47	67	52	58	43	28	64	63	59	35
Outside District Medical Officers	3	2	..	..	..	..	..	2	..	..	1
Royal Infirmary	553	99	99	80	106	98	60	60	92	78	59
Ancoats Hospital	270	76	57	50	47	40	22	33	34	21	18
Skin Hospital	264	41	37	38	37	37	29	36	33	28	24
St. Mary's Hospital	73	15	14	7	17	13	6	8	10	..	1
Northern Hospital	62	5	15	7	7	9	3	2	10	11	2
Jewish Hospital	34	5	10	7	1	7	3	5	6	1	..
Pendlebury Hospital	30	8	16	10	5	12	10	30	26	15	13
Babies' Hospital	..	..	..	6	2	..	..	2	2	3	8
Hulme Dispensary	2	..	..	2	..	..	..	..	..	..	..
Gartside Street Dispensary..	280	41	61	33	34	22	21	23	15	20	9
Hardman Street Dispensary.	124	11	7	8	9	21	16	20	9	1	..
Bowdon Hospital	5	1	..	..	..	1	1	..	..	..	..
Asylums	25	2	1	1	1	..	2	2	2	..	1
Schools	148	23	26	11	10	20	4	9	23	27	24
Tuberculosis Office Staff ..	78	19	9	6	11	12	20	13	10	18	20
Military	27	1	2	2	1	..	.	..	..	1	1
Various Sources	90	14	29	9	19	22	12	25	16	16	11
Private Practitioners	1013	150	126	101	113	104	102	89	96	70	69
Child Welfare Centres.. ..	..	..	..	..	..	..	..	2	..	1	..
Swinton House	..	..	..	..	..	..	..	..	11	..	..
	3,580	623	622	463	503	490	375	466	496	402	313

TABLE 8.

NUMBER OF NEW CASES OF PULMONARY TUBERCULOSIS NOTIFIED DURING THE YEARS 1900 TO 1933.

Year	Poor-law Cases	Institutions, etc.	Private Practitioners	Total
(1) 1900*	578	455	540	1,573
1901	625	373	341	1,339
1902	667	305	303	1,275
1903	556	550	251	1,357
1904	512	440	250	1,202
1905	527	588	291	1,406
1906	565	510	304	1,379
1907	634	646	310	1,590
(2) 1908	659	498	346	1,503
1909	681	542	384	1,607
1910	543	760	356	1,659
(3) 1911	517	897	423	1,837
(4) 1912	488	947	969	2,404
(5) 1913	345	717	1,350	2,412
1914	483	877	1,304	2,664
1915	279	740	1,194	2,213
1916	322	817	1,410	2,549
1917	470	716	1,061	2,247
1918	268	563	1,015	1,846
1919	208	538	845	1,591
1920	206	629	672	1,507
1921	257	632	722	1,611
1922	233	567	656	1,456
1923	239	546	659	1,444
1924	223	555	731	1,509
1925	262	496	746	1,504
1926	220	422	765	1,407
1927	241	441	756	1,438
1928	253	361	824	1,438
1929	201	382	802	1,385
1930	201	377	709	1,287
	Transferred Hospitals			
1931	206	362	717	1,285
1932	202	228	657	1,087
1933	205	213	663	1,081
Total............	13,076	18,690	23,326	55,092

* This table does not include 425 cases notified in 1899.

(1). Voluntary notification of Pulmonary Tuberculosis—Manchester scheme.

(2). Compulsory notification (Tuberculosis Regulations) from Poor Law institutions.

(3). Compulsory notification from voluntary institutions.

(4). Compulsory notification of Pulmonary Tuberculosis by all practitioners.

(5). Compulsory notification of all forms of Tuberculosis.

TABLE 9.

NUMBER OF NEW CASES OF NON-PULMONARY TUBERCULOSIS NOTIFIED DURING THE YEARS 1913-1933.

Year	Total		Total
	Males	Females	
1913	759	714	1,473
1914	519	413	932
1915	422	415	837
1916	418	467	885
1917	433	449	882
1918	345	353	698
1919	206	228	434
1920	280	257	537
1921	295	281	576
1922	321	284	605
1923	350	380	730
1924	316	307	623
1925	322	300	622
1926	239	224	463
1927	277	226	503
1928	214	276	490
1929	204	171	375
1930	251	215	466
1931	259	237	496
1932	201	201	402
1933	154	159	313
Total	6,785	6,557	13,342

TABLE 10.

TUBERCULOSIS (NON-PULMONARY).—PRIMARY CASES NOTIFIED DURING 1933.—AGE GROUPS AND SITE.

Location of Disease	Age Groups																				Totals	
	0—		5—		10—		15—		20—		25—		35—		45—		55—		65—			
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Brain:—Tumour	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meninges	7	6	3	5	2	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	12	14
Hydrocephalus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glands:—Cervical	11	8	18	16	5	14	4	3	5	4	6	4	1	4	..	3	2	..	..	..	52	56
Mesenteric	1	..	2	..	..	2	..	..	..	..	1	..	..	..	..	..	..	..	..	..	4	2
Axillary	..	..	1	..	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	3	1
Inguinal	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Tuberculous Peritonitis	..	1	2	..	1	1	..	4	2	2	..	2	1	..	..	..	..	..	..	..	6	10
Tuberculosis of Abdomen	4	..	3	2	1	..	1	2	..	1	..	1	..	2	..	..	..	..	..	..	9	8
,, of Breast	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
,, of Intestines	..	..	..	..	..	..	..	..	..	..	..	1	..	2	..	..	1	..	..	..	1	3
Joints:—Spine	4	3	1	1	..	2	2	..	2	1	2	..	2	..	1	3	1	..	..	..	15	10
Hip	..	..	2	3	3	2	2	..	2	2	1	2	..	2	..	1	..	..	..	..	10	12
Elbow	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Ankle	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1
Wrist	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Shoulder	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Knee	1	..	2	..	1	..	1	..	..	1	..	..	..	..	1	..	..	..	..	..	6	1
Bones:—Various	..	1	1	2	..	..	..	2	1	..	..	..	2	..	..	..	1	..	..	..	5	5
Tuberculosis of Skin	..	..	2	..	..	3	..	3	..	3	4	3	3	3	..	...	..	2	..	1	9	18
General Tuberculosis	1	1	..	..	..	..	..	..	..	1	..	..	...	..	1	1	..	..	..	..	2	3
Special Organs:—Ear	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Bladder, etc.	..	..	..	..	..	..	1	1	1	..	1	..	..	..	1	..	..	..	..	..	4	1
Kidney	..	..	..	1	1	1	1	..	..	1	1	1	1	2	..	..	..	..	..	..	4	6
Testicle, etc.	1	..	..	..	..	..	1	..	..	..	4	..	1	..	..	..	..	..	..	..	7	..
Muscles, etc.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rectum	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Unclassified	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	1	..	..	..	..	..	4
							[illegible]	[illegible]	15	18	20	15	11	16	4	9	5	3	..	1	154	159

TABLE II.—VARIOUS STATISTICS RELATING TO THE NOTIFICATION OF TUBERCULOSIS.

	1933	1932	1931	1930	1929	1928	1927	1926	1925	1924	1923	1922	1921	1920	1914 to 1919	1899 Sept. 1st to 1913 Dec. 31st	Total
Cases Visited and Registered—																*Phthisis only*	
Males	804	828	975	1014	1058	1106	1173	1100	1232	1204	1277	1324	1285	1371	10895	14170	40816
Females	622	723	806	806	809	919	866	872	937	1032	1023	1024	928	923	8269	8854	29413
Totals	1426	1551	1781	1820	1867	2025	2039	1972	2169	2236	2300	2348	2213	2294	19164	23024	70229
Houses Disinfected— 1. By Corporation—																	
(a) With solution of chlorinated lime only	..	..	..	..	..	..	..	..	..	..	..	997	2133	2082	1 0370	9015	24597
(b) With lime solution only	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	126	126
(c) *By Esmarch's method and solution of chlorinated lime	..	..	..	..	..	..	..	..	1332	1571	1607	717	..	..	7416	17232	29875
(d) † By fumigating lamp	2952	2991	3224	3115	2934	2693	2083	1635	128	..	..	..	..	..	..	..	21755
Totals	2952	2991	3224	3115	2934	2693	2083	1635	1460	1571	1607	1714	2133	2082	17786	26373	76353
2. By Tenants— *Esmarch's method or chlorinated lime, etc.	5791	5802	6342	7032	7192	6868	7338	6967	6392	5647	5885	6268	6157	4891	22266	36919	147757
Totals	8743	8793	9566	10147	10126	9561	9421	8602	7852	7218	7492	7982	8290	6973	40052	63292	224110
Specimens of Sputum examined—																	
Positive	966	649	408	360	392	360	348	347	325	391	558	528	534	437	3725	1705	17033
Negative	4734	3589	2236	2039	1698	1548	1573	1363	1415	1419	1753	1946	1585	1729	9459	12176	50262
Totals	5700	4238	2644	2399	2090	1908	1921	1710	1740	1810	2311	2474	2119	2166	13184	18881	67295
Cases admitted to Hospital and Sanatoria	2275	2038	2275	2033	1919	1948	2062	1844	2027	2077	1942	2052	2139	2153	13265	22669	64718
Notified from Common Lodging-houses	43	44	45	62	71	62	56	53	76	65	84	80	102	115	1007	3109	5074
Number of cases under observation	9017	9441	9759	10060	10197	10494	10586	10680	10379	9949	9561	9258	8606	7990	38685	33702 approx.	..

* Esmarch's method resumed in August, 1922, after suspension due to Food Control Order.

† Method commenced on 1st December, 1925.

TABLE 12.—RETURN SHOWING THE WORK OF THE CLINIC DURING THE YEAR 1933.

Diagnosis	Pulmonary				Non-Pulmonary				Total			
	Adults		Children		Adults		Children		Adults		Children	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
A.—New cases examined during the year (excluding contacts)—												
(*a*) Definitely tuberculous	560	363	18	25	66	67	52	62	626	430	70	87
(*b*) Diagnosis not completed	..	..	..	..	..	..	..	..	77	65	21	15
(*c*) Non-tuberculous	..	..	..	..	..	..	..	..	387	331	131	112
B.—Contacts examined during the year—												
(*a*) Definitely tuberculous	12	12	8	5	..	1	6	5	12	13	14	10
(*b*) Diagnosis not completed	..	..	..	..	..	..	..	..	10	15	31	31
(*c*) Non-tuberculous	..	..	..	..	..	..	..	..	78	181	335	308
C.—Cases written off the Dispensary Register as—												
(*a*) Recovered	107	69	38	27	35	39	68	51	142	108	106	78
(*b*) Non-tuberculous	..	..	..	..	..	..	..	..	506	541	477	428
D.—Number of persons on Dispensary Register on December 31st—												
(*a*) Definitely tuberculous	2,411	1,775	332	291	436	521	533	429	2,847	2,296	865	720
(*b*) Diagnosis not completed	..	..	..	..	..	..	..	..	87	30	52	46

Total number of cases of Tuberculosis who received Treatment from the Clinic	812
Total number of attendances at the Clinic	22,502

Table 13.

Insured Cases Applying for Treatment for the Years, 1914–1933.

	Males	Females	Total
1914	730	321	1,051
1915	572	315	887
1916	747	316	1,063
1917	728	359	1,087
1918	642	261	903
1919	630	255	885
1920	645	250	895
1921	615	255	870
1922	543	265	808
1923	539	291	830
1924	597	371	968
1925	610	327	937
1926	562	368	930
1927	555	296	851
1928	612	372	984
1929	610	376	986
1930	551	352	903
1931	555	360	915
1932	451	323	774
1933	503	281	784

Cases of discharged soldiers referred for treatment—232.

Number of patients who had so far recovered that no signs of active disease were found: Insured—206; Uninsured—254.

Contacts examined at their homes and at the Clinic—1,038; of these, definite signs of tuberculosis were found in 49.

Grants of food were made in 3,535 instances to 600 families, and 15 grants of clothing were supplied to 14 patients in hospital and sanatoria to enable them to derive full benefit from treatment.

Special visits to the number of 14,650 have been paid by the Tuberculosis Nurses and 960 visits by the Clinical Nurse who attends to domiciliary patients requiring surgical dressings and nursing care.

TABLE 14.—INSURED CASES TREATED IN 1933.

Residential	1,711
Tuberculosis Clinic	132
Domiciliary	2,386
Total	4,229

ANALYSIS OF CASES TREATED.

TABLE 15.—*Residential* (*Insured*).

INSTITUTION	Total Cases Treated		Discharged from Institutions		Died	* Residential Treatment discontinued in other cases	Still under Residential Treatment on 1st Jan., 1934
	Males	Females	Improved	Without Improvement			
	(1)		(2)	(3)	(4)	(5)	(6)
			PULMONARY				
Baguley	435		137	77	66	4	151
		217	49	46	29	1	92
Crossley	71		40	9	..	5	17
		179	129	10	..	3	37
Abergele	98		59	5	1	2	31
		19	7	4	..	..	8
Barrowmore	65		29	5	3	..	28
		..	..	..	..	..	..
Frimley	2		2	..	..	..	..
		..	..	..	..	..	..
Withington	327		161	24	90	..	52
		185	81	33	43	..	28
Crumpsall	7		..	..	7	..	.
		2	..	..	2	..	..
Total Pulmonary	1005	602	694	213	241	15	444
			NON-PULMONARY				
Manchester Royal Infirmary ..	13		12	..	..	..	1
		6	6	..	..	..	..
Skin Hospital	2		2	..	..	..	..
		5	4	..	..	..	1
Ancoats Hospital	..		..	..	..	..	..
		..	..	..	..	..	..
Shropshire Orthopædic Hospital	10		6	..	1	..	3
		12	4	1	..	..	7
Withington	30		12	3	3	..	12
		7	2	2	2	..	1
Crumpsall	14		..	9	5	..	..
		3	..	2	1	..	..
Total Non-pulmonary ..	69	33	48	17	12	..	25
TOTAL—ALL FORMS	1074	635	742	230	253	15	469

* The figures in column (5) relate to cases as to the progress of which no definite report is available for various reasons—*e.g.*, the withdrawal from the Institution of the insured persons themselves before the expiration of the period for which they were nominated for the treatment.

TABLE 16.—*Residential (Uninsured).*

INSTITUTION	Total Cases Treated			Discharged from Institutions		Died	*Residential Treatment discontinued in other cases	Still under Residential Treatment on 1st Jan., 1934
	Males	Females (1)	Children	Improved (2)	Without Improvement (3)	(4)	(5)	(6)
			PULMONARY					
Baguley	100			29	26	13	1	31
		101		30	26	15	..	30
			..	..	..	..	..	..
Crossley	21			14	3	1	2	1
		62		43	9	..	2	8
			..	..	..	..	..	..
Abergele	20			11	2	..	1	6
		7		5	..	..	..	2
			113	44	1	1	..	67
Barrowmore	9			7	..	..	..	2
		..		..	..	..	..	..
			..	..	..	..	..	..
Frimley	1			1	..	..	..	..
		..		..	..	..	..	..
			..	..	..	..	..	..
Withington	290			131	27	74	..	58
		164		62	34	50	..	18
			..	..	..	..	..	..
Booth Hall	..			..	..	..	..	..
		..		..	..	..	..	..
			93	61	11	6	..	15
Crumpsall	3			..	..	3	..	..
		5		..	..	4	..	1
			..	..	..	..	..	..
Total Pulmonary	444	339	206	438	139	167	6	239
			NON-PULMONARY					
Abergele	..			..	..	..	..	..
		..		..	..	..	..	..
			176	39	2	3	..	132
Manchester Royal Infirmary	6			6	..	..	..	..
		10		9	..	..	..	1
			8	7	..	..	..	1
Skin Hospital	1			1	..	..	..	..
		5		5	..	..	..	..
			8	5	..	..	..	3
Ancoats Hospital	..			..	..	..	..	..
		1		1	..	..	..	..
			4	3	..	..	..	1
Shropshire Orthopædic Hospital	6			1	..	2	..	3
		4		3	1	..	..	..
			..	..	..	..	..	..
Withington	21			10	3	3	..	5
		10		4	2	3	..	1
			..	..	..	..	..	..
Booth Hall	..			..	..	..	..	..
		..		..	..	..	..	..
			109	54	8	25	..	22
Crumpsall	5			..	2	..	..	3
		5		..	..	2	..	3
			..	..	..	..	..	..
Total Non-Pulmonary	39	35	305	148	18	38	..	175
Total—ALL FORMS	483	374	511	586	157	205	6	414

---

* The figures in column (5) relate to cases of which no definite report is available for various reasons—*e.g.*, the withdrawal from the Institution of the persons themselves before the expiration of the period for which they were nominated for the treatment.

LIGHT THERAPY

Artificial light treatment has been continued for those cases that experience has proved benefit by this form of therapy. During the last six years 237 cases have been under this treatment. Two forms of artificial sunlight are made use of viz., the mercury vapour lamp, which was in use up to the time we moved into the new clinic, and the open arc lamp.

The following table analyses these cases in detail and shows a gain in weight and improvement in many patients. Quiescence was secured in a number of those who completed the necessary course of treatment. It is to be noted that those particularly benefitting are the sufferers from tuberculous adenitis (with or without abscess formation) and those in whom abdominal tuberculosis existed. It must be borne in mind that no figures of the treatment of lupus appear, as these cases are treated by the Manchester Skin Hospital (on behalf of the Corporation) by light therapy, and in the majority of instances with very marked benefit :—

TABLE 17.

Localisation of the Disease	No. of Cases	Sex		Condition of Cases at the end of Treatment				Weight Record			Average duration of Treatment in Months	Treatment discontinued
		M.	F.	Quiescent	Improved	Stationary	Worse	Gain	Stationary	Loss		
Tuberculous adenitis with abscess	21	10	11	6	6	3	..	10	4	1	9·1	6
Tuberculous adenitis without softening ..	114	56	58	37	20	10	5	48	14	10	10·5	42
Tuberculosis of bones, joints, and spine ..	12	9	3	3	1	2	..	5	..	1	10·8	6
Tuberculosis of abdomen and tabes mesenterica	31	14	17	11	7	2	..	16	2	2	9·2	11
Tuberculosis of bronchial glands	3	3	..	..	2	..	..	2	..	..	9·0	1
Tuberculosis of skin ..	4	2	2	..	1	..	..	..	1	..	4·0	3
Tuberculosis of kidney..	3	2	1	..	..	1	..	1	..	..	9·0	2
Pre-tuberculous conditions	4	3	1	..	3	..	..	3	..	..	9·0	1

The following table summarises the non-pulmonary cases treated at various Institutions :—

Table 18.

Tuberculosis of :—	
Bones and Joints	258
Glands	67
Genito Urinary Tract	32
Abdomen	73
Skin—	
1. Lupus Vulgaris	175
2. Toxi Tuberculids	1
3. Bazins Disease	19
4. Tuberculous Ulceration of Skin	25
Fistula	1

Table 19.

Table showing After History of Arrested Cases (Insured).

1923.

	No Tubercle Bacilli found.					*Tubercle Bacilli found.*				
Stage	Sex	Number of Cases taken off Register	Number known to be still living at end of 1933	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1933	Lost sight of	Died
I.	M	21	10	6	5	M	18	10	2	6
	F	16	9	4	3	F	2	..	1	1
II.	M	20	12	5	3	M	3	1	..	2
	F	4	2	1	1	F	6	2	2	2
III.	M	4	2	..	2	M	6	2	1	3
	F	2	2	..	..	F	1	..	..	1
	M & F	67	37	16	14	M & F	36	15	6	15

TABLES SHOWING AFTER HISTORY OF ARRESTED CASES (INSURED)—continued

1924.

No Tubercle Bacilli found. *Tubercle Bacilli found.*

Stage	Sex	Number of Cases taken off Register	Number known to be still living at end of 1933	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1933	Lost sight of	Died
I.	M	55	27	16	12	M	17	10	5	2
	F	25	12	9	4	F	3	3	. .	. .
II.	M	35	23	5	7	M	18	7	5	6
	F	19	13	2	4	F	2	2	. .	. .
III.	M	13	6	1	6	M	7	3	1	3
	F	9	7	1	1	F	3	2	1	. .
	M & F	156	88	34	34	M & F	50	27	12	11

1925

I.	M	30	20	9	1	M	19	10	3	6
	F	18	12	6	. .	F	6	3	2	1
II.	M	30	17	10	3	M	13	9	1	3
	F	12	10	1	1	F	8	3	3	2
III.	M	7	4	1	2	M	4	1	1	2
	F	5	3	2	. .	F	2	. .	1	1
	M & F	102	66	29	7	M & F	52	26	11	15

1926.

I.	M	29	21	5	3	M	11	8	3	. .
	F	22	13	9	. .	F	4	2	2	. .
II.	M	20	15	3	2	M	10	3	6	1
	F	7	4	3	. .	F	2	2	. .	. .
III.	M	10	6	2	2	M	4	2	. .	2
	F	2	2	. .	. .	F	. .	. .	. .	. .
	M & F	90	61	22	7	M & F	31	17	11	3

TABLES SHOWING AFTER HISTORY OF ARRESTED CASES (INSURED)—continued

1927.

No Tubercle Bacilli found. *Tubercle Bacilli found.*

Stage	Sex	Number of cases taken off Register	Number known to be still living at end of 1933	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1933	Lost sight of	Died
I.	M	23	14	6	3	M	6	5	..	1
	F	26	17	6	3	F	1	1	..	..
II.	M	13	10	..	3	M	14	8	6	..
	F	7	3	3	1	F	5	3	..	2
III.	M	6	5	..	1	M	3	3	..	..
	F	1	1	..	..	F	1	1	..	..
	M & F	76	50	15	11	M & F	30	21	6	3
1928.										
I.	M	33	28	3	2	M	10	5	3	2
	F	28	20	7	1	F	6	4	1	1
II.	M	27	19	3	5	M	7	4	2	1
	F	15	11	4	..	F	2	2	..	..
III.	M	12	11	1	..	M	3	2	..	1
	F	3	2	..	1	F	3	2	..	1
	M & F	118	91	18	9	M & F	31	19	6	6
1929.										
I.	M	34	24	6	4	M	8	6	1	1
	F	37	31	5	1	F	4	4	..	..
II.	M	24	17	4	3	M	9	5	3	1
	F	13	11	2	..	F	5	5	..	..
III.	M	9	6	2	1	M	5	3	1	1
	F	4	4	..	..	F	..	..	..	..
	M & F	121	93	19	9	M & F	31	23	5	3

TABLES SHOWING AFTER HISTORY OF ARRESTED CASES (INSURED)—continued

1930.

	No Tubercle Bacilli Found.					*Tubercle Bacilli Found.*				
Stage	Sex	Number of Cases taken off Register	Number known to be still living at end of 1933	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1933	Lost sight of	Died
I.	M	80	66	8	6	M	24	21	2	1
	F	45	36	7	2	F	4	3	1	..
II.	M	44	35	4	5	M	25	16	3	6
	F	22	19	3	..	F	12	11	..	1
III.	M	15	12	1	2	M	4	3	1	..
	F	7	7	..	..	F	2	..	1	1
	M & F	213	175	23	15	M & F	71	54	8	9

1931.

Stage	Sex	Number of Cases taken off Register	Number known to be still living at end of 1933	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1933	Lost sight of	Died
I.	M	77	63	8	6	M	25	24	1	..
	F	57	45	8	4	F	5	5	..	..
II.	M	48	36	6	6	M	29	24	2	3
	F	14	12	2	..	F	7	6	..	1
III.	M	9	8	1	..	M	5	4	1	..
	F	2	2	..	..	F	1	1	..	..
	M & F	207	166	25	16	M & F	72	64	4	4

1932.

Stage	Sex	Number of Cases taken off Register	Number known to be still living at end of 1933	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1933	Lost sight of	Died
I.	M	48	40	4	4	M	21	19	..	2
	F	52	49	2	1	F	16	13	3	..
II.	M	29	22	6	1	M	15	14	..	1
	F	22	20	2	..	F	9	9	..	..
III.	M	9	9	..	..	M	3	3	..	..
	F	4	4	..	..	F	2	2	..	..
	M & F	164	144	14	6	M & F	66	60	3	3

CROSSLEY AND BAGULEY SANATORIA.

Conditions relative to patients treated in the Crossley Sanatorium and Baguley Sanatorium during the last ten years are set forth in the following tables; Baguley Sanatorium is in the main an institution for advanced cases. In addition to these, however, cases for observation are sent, and these may, if suitable, be transferred later to the other sanatoria at Delamere and Abergele.

The earlier the stage of the disease at which a patient can be given sanatorium treatment the greater the prospect of permanent arrest. Properly selected cases have their best chance of arrest in the shortest time by intelligently carried-out sanatorium treatment; moreover, they learn restraint, discipline, and an ordered way of life, which are essential for maintenance of health and prevent relapses.

TABLE 20.

CROSSLEY SANATORIUM.

Males.

Year (1)	No. of new cases (2)	Position at the end of 1933				No. of Re-admissions
		Known to be still living (3)	Died in the Sanatorium (4)	Died elsewhere (5)	Lost sight of (6)	These are additional to the cases in Column 2 and are given to show the number of beds occupied (7)
1924 ..	114	35	2	59	18	32
1925 ..	131	39	3	68	21	25
1926 ..	107	41	..	53	13	44
1927 ..	112	53	..	44	15	39
1928 ..	122	59	..	53	10	27
1929 ..	97	56	..	36	5	53
1930 ..	88	64	..	20	4	35
1931 ..	84	55	..	20	9	23
1932 ..	38	31	..	5	2	26
1933 ..	52	50	1	..	1	22
Total ..	945	483	6	358	98	326

Females.

Year (1)	No. of new cases (2)	Position at the end of 1933				No. of Re-admissions
		Known to be still living (3)	Died in the Sanatorium (4)	Died elsewhere (5)	Lost sight of (6)	These are additional to the cases in Column 2 and are given to show the number of beds occupied (7)
1924 ..	135	38	1	63	33	25
1925 ..	111	31	1	51	28	33
1926 ..	127	48	..	52	27	32
1927 ..	140	68	..	49	23	24
1928 ..	126	60	..	50	16	33
1929 ..	139	85	..	41	13	22
1930 ..	137	94	1	30	12	41
1931 ..	136	100	1	25	10	49
1932 ..	135	110	1	21	3	54
1933 ..	130	115	...	7	8	37
Total ..	1316	749	5	389	173	350

TABLE 21.

BAGULEY SANATORIUM.

Males.

Year (1)	No. of new cases (2)	Position at the end of 1933 Known to be still living (3)	Died in the Sanatorium (4)	Died elsewhere (5)	Lost sight of (6)	No. of Re-admissions These are additional to the cases in Column 2 and are given to show the number of beds occupied (7)
1924 ..	363	46	118	178	21	106
1925 ..	326	53	124	128	21	88
1926 ..	297	50	105	111	31	78
1927 ..	307	77	99	106	25	84
1928 ..	361	90	109	139	23	88
1929 ..	355	88	124	121	22	83
1930 ..	297	86	111	92	8	83
1931 ..	264	134	77	50	3	87
1932 ..	263	145	61	50	7	81
1933 ..	285	225	42	17	1	67
Total ..	3118	994	970	992	162	845

Females.

Year (1)	No. of new cases (2)	Position at the end of 1933 Known to be still living (3)	Died in the Sanatorium (4)	Died elsewhere (5)	Lost sight of (6)	No. of Re-admissions These are additional to the cases in Column 2 and are given to show the number of beds occupied (7)
1924 ..	225	29	65	114	17	48
1925 ..	199	29	71	75	24	35
1926 ..	216	37	81	80	18	48
1927 ..	185	28	59	81	17	50
1928 ..	168	46	58	53	11	38
1929 ..	207	59	80	56	12	59
1930 ..	182	49	75	55	3	27
1931 ..	146	62	46	37	1	28
1932 ..	157	90	43	20	4	21
1933 ..	162	130	23	8	1	33
Total ..	1847	559	601	579	108	387

HOSPITALS.

INSTITUTIONS.

HOMES AND OTHER SPECIAL ESTABLISHMENTS.

CONVALESCENT HOME WORK.

DISTRICT MEDICAL SERVICE.

PUBLIC VACCINATION.

RECOVERY OF HOSPITAL COSTS.

Hospital and Institution Services, 1933.

The work of the City hospitals and institutions was carried on smoothly during the year under review and various developments are referred to in succeeding paragraphs.

The number of beds under the direct control of the Council remained the same as in 1932, but their distribution was altered in one instance, *i.e.*, the conversion of a female medical ward at Withington Hospital for use as a maternity ward. The new ward was commissioned as a direct result of the increased demand for maternity accommodation at this hospital, and has maintained a high average occupancy since conversion. The conversion was effected without undue disturbance of the work of the hospital.

The number of beds retained by the Council in outside convalescent homes remains at the 1932 figure, *i.e.*, 180.

Financial Policy of the Hospitals.

Throughout the year the restrictions placed upon expenditure have been strictly observed by the governing committees. It is, however, important that it should be realised that these financial limitations are holding up a number of developments or alterations for which the hospital committees are pressing.

It should also be noted that the maintenance of structure, both in hospitals and institutions, cannot be kept up to a proper standard with the money available to the Committee.

Separation of Hospitals from Institutions.

Towards the end of 1933, the Public Health Committee approved schemes which go a long way towards effecting administrative separation between the combined hospitals and institutions at Crumpsall and Withington. In each case the Committee approved of the appointment of a medical superintendent as the controlling administrative officer of the hospital, and of a steward to act as accounting officer. The normal hospital relationship between medical superintendent and steward is observed at each hospital. This procedure is in accord with the declaration in the Council's official scheme that the hospitals are public health establishments, and it is important to observe that the majority of the cases admitted do not now reach us through poor-law channels, and that the hospitals are increasingly being recognised by the public as establishments provided for the citizens as a whole—not for any specific class—and equipped and run on modern lines.

The work of separation is being continued in detail whenever opportunity occurs.

Registration of Hospital Statistics.

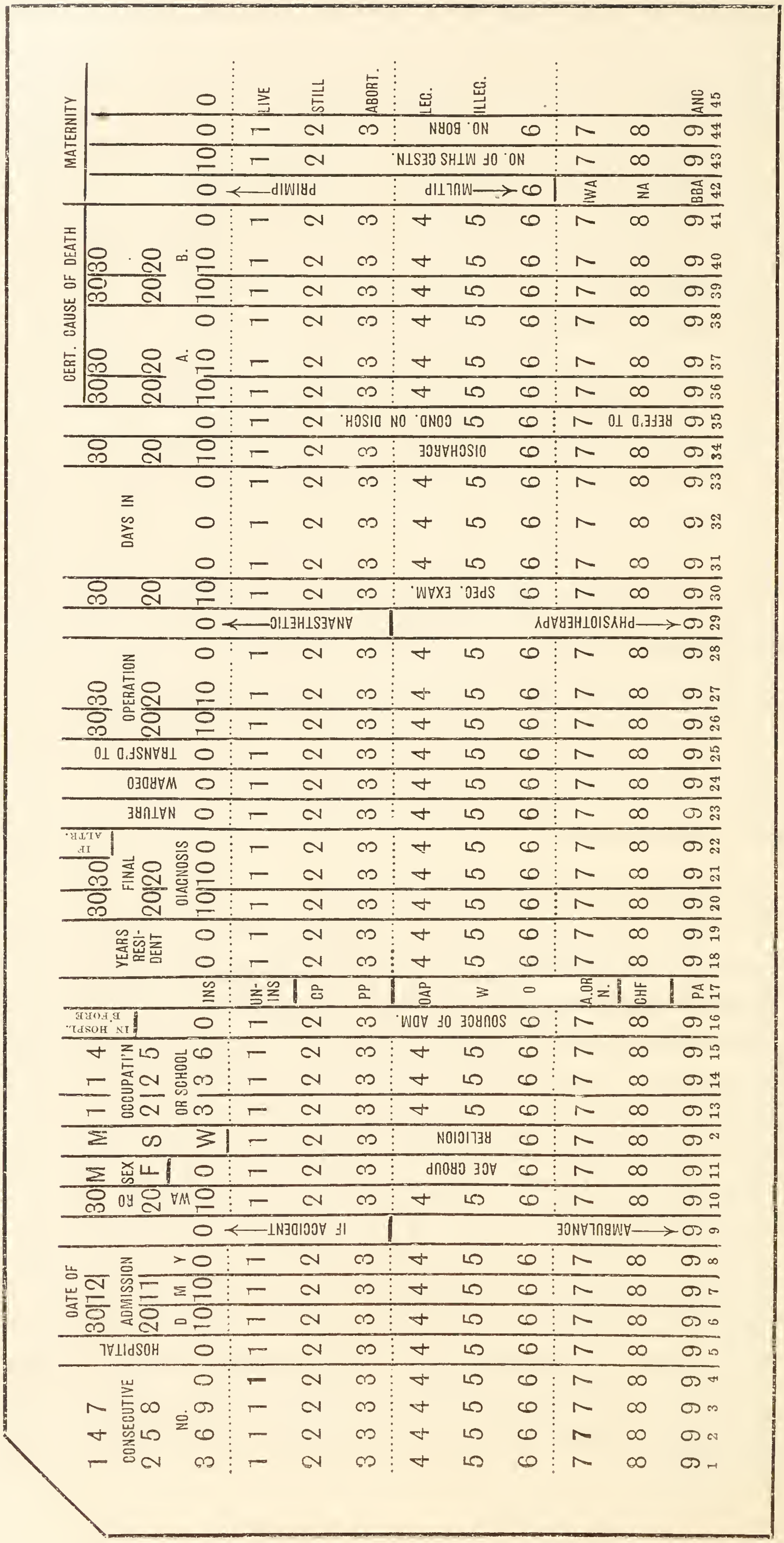
The new method of recording particulars of cases treated in the hospitals, referred to in the last Annual Report, has only been in operation since January 1st, 1934, and it is therefore impossible to present in this report tables for 1933 in the new form and detail which in future will be possible. The statistics given in this section of the report therefore take the same form as last year, and they do not exhibit any marked variation from last year's figures. It is noteworthy, however, that the number of patients treated has again increased.

The new system of registration provides information, giving a complete classification of diseases treated, the districts of the city from which the patients come, into what age groups the patients fall, how their occupations are classified, the average length of stay in hospital, the source of their admission to hospital, the results of treatment (including operative treatment), and many other facts which assist in the production of an accurate picture of the user of the municipal hospital beds in the City. The collection and tabulation of this information is a function of the Medical Officer of Health's central office. The figures are obtained by mechanical means, and on page 96 is reproduced the card upon which the facts obtained from the hospitals are punched in accordance with specially devised codes. On page 96A is reproduced the hospital admission report which provides the information to be coded. Various forms providing for periodical returns of information as to bed occupancy are also in use, but it is not thought necessary to print copies of these.

Stores Accounting at Hospitals and Institutions.

In the latter part of 1933, the Public Health Committee approved of the introduction of a new central system of stores accounting and stores control. The operation of the new system commenced on February 25th, 1934.

The new system necessitated the formation of a special clerical unit in the central department. The scheme establishes uniformity in the methods of dealing with stores at the hospitals and institutions, a desirable position which had not formerly existed. Apart from this obvious advantage, the new system centralises the whole of the records in relation to stores at the central office, effects economies in the use of forms and books, reduces clerical labour by the introduction of machinery, and definitely assists in the elimination of waste by providing comparable information in respect of all the establishments dealt with. In addition, it enables a separate weekly provisions cost per head for patients, inmates, and staff to be ascertained, and this information is of value in preparing estimates of expenditure and in fixing contracts. Improved valuation of issues has also resulted from the introduction of the new system.


CONSECUTIVE NO.
HOSPITAL
DATE OF ADMISSION
D M Y
IF ACCIDENT
AMBULANCE
RO
WA
SEX
M
F
M
S
W
RELIGION
AGE GROUP
OCCUPATI'N OR SCHOOL
IN HOSPL. B'FORE
SOURCE OF ADM.
INS
UN-INS
CP
PP
OAP
W
O
A.OR N.
CHF
PA
YEARS RESI-DENT
FINAL DIAGNOSIS
IF ALTR.
NATURE
WARDED
TRANSF'D TO
OPERATION
ANAESTHETIC
PHYSIOTHERAPY
SPEC. EXAM.
DAYS IN
DISCHARGE
COND. ON DISCH.
REFF'D TO
CERT. CAUSE OF DEATH
A.
B.
MATERNITY
PRIMIP
MULTIP
IWA
NA
BBA
NO. OF MTHS GESTN.
NO. BORN
LIVE
STILL
ABORT.
LEG.
ILLEG.
ANC

M.O.H.

MEANING OF ABBREVIATIONS	
X. IS	YES
D. IS	DOUBTFUL
U.O IS	UNABLE TO OBTAIN

CITY OF MANCHESTER PUBLIC HEALTH DEPT. (HOSPITALS)

IN-PATIENT REPORT

CONSEC. No. BII......................

C......................

W......................

HOSPITAL			H.S. No.
BOOTH HALL	CRUMPSALL	WITHINGTON	

DATE OF ADMISSION. DAY OF 193. .	TIME	A.M.	AMBULANCE	IF ACCIDENT	
		P.M.		ROAD	OTHER

PATIENT'S NAME	SEX		AGE (YEARS)	RELIGION					M S W	OCCUPATION (CODE) OR SCHOOL (CODE)	WHETHER IN HOSPITAL BEFORE
	M	F		C. OF E.	R.C	NON-CON.	HEBREW	OTHER			
HOME ADDRESS											

SOURCE OF ADMISSION

D.M.O.	G.P.	EMERG.	VOL. HOSPL.	TRANS. FROM CITY INST.	TRANS. FROM CITY HOSP.	BIRTH	STAFF CASE

INSURED (N.H.I.)	UNINSURED (N.H.I.)	GENL. PATIENT	PAYING PATIENT

IF PENSIONER				IF SUBSCRIBER TO CONV. HOME FUND	IF IN RECEIPT OF PUBLIC ASSISTANCE	RESIDENT IN M C.
O.A.P.	WIDOWS	ORPHANS	ARMY OR NAVY			
						.........YRS.

DISEASE

DIAGNOSIS ON ADMISSION	FINAL DIAGNOSIS (CODE ONLY)			NATURE		INOPERABLE
	1	2	3	ACUTE NEEDING SKILLED NURSING CARE	CHRONIC NOT NEEDING SKILLED NURSING CARE	

TREATMENT

WARDED										OPERATIONS (CODE)			ANAESTHETIC				
MED.	SURG.	ORTHOP.	CHRON.	MATY.	TB.	V.D.	ISOL.	NURSY.	ANTE-NAT.	1	2	3	SPINAL	GEN.	LOC.	RECT.	NIL.

TRANSFERRED TO									
MED.	SURG.	ORTHOP.	CHRON.	MATY.	TB.	V.D.	ISOL.	NURSY.	ANTE-NAT.

No. OF DAYS IN

SPECIAL TREATMENT IN PHYSIOTHERAPY DEPT.			
MASSAGE	REMEDIAL EXERCISES	MEDICAL ELECTRICITY	ARTIFICIAL SUNLIGHT

CERT. CAUSE OF DEATH (CODE)	
A	B

EXAMINATION MADE BY														
PHYSN.	SURG.	GYNAEC.	OPHTH.	ORTHOP.	TB. SPLST.	AUR. & LARYNG.	CHILD SPLST.	DERMAT.	RAD. THERAP.	RADIOL.	DENTIST	PATHOL.	OTHER

DISCHARGE							
TO	HOME	INST.	HOSP.	VOL. HOSP.	CONV. HOME	STAFF CASE DUTY	DIED
	AGAINST ADVICE	INDISCIPLINE	ABSCONDED				

CONDITION ON DISCHARGE					
CURED	IMPROVED	NO CHANGE	WORSE	TUBERCULAR CASES QUIESCENT	TUBERCULAR CASES NON-QUIESCENT

REFERRED TO		
O.P.D.	C.W. CENTRE	SCHOOL CLINIC

FOR COMPLETION IN MATERNITY CASES

		DELIVERY				BIRTH							
PRIMIPARA	MULTIPARA	MIDWIFE WITH MEDICAL ASSISTANCE	MIDWIFE WITHOUT MEDICAL ASSISTANCE	B.B.A.	No. OF MONTHS GESTN.	No. BORN	LIVE	STILL	ABORT.	LEG.	ILLEG.	WHETHER ATT. HOS. A-N. CLINIC

THIS FORM WHERE PRINTED IN RED TO BE FILLED IN BY ADMITTING OFFICER. TOP COPY TO M.O.H. WITHIN 24 HOURS. 2ND COPY TO MEDICAL RECORD PAPER. 3RD COPY TO BE FILED FOR REFERENCE AT HOSPITAL. TOP COPY WILL BE RETURNED BY M.O H. AND MUST BE KEPT BY OFFICE STAFF UNTIL PATIENT DISCHARGED. FORM THEN TO BE COMPLETED ACCORDING TO MEDICAL RECORD COPY AND SENT AGAIN TO M.O.H. WITHIN 24 HOURS OF DISCHARGE.

Hospital Almoner.

During 1933 a lady Almoner was appointed to deal with out-patients at the two adult general hospitals, *i.e.*, Crumpsall and Withington. As the trial period of one year has not expired it is not possible to give a comprehensive survey of the Almoner's work in this report, but from progress reports which have been received, there is every reason to believe that the results will be such as to encourage the Council to continue the appointment as a permanency. Not only have the financial results of the appointment been encouraging, but it is gratifying to record that the Almoner has been able to render to patients in large measure those friendly social services which distinguish the work of Almoners in the best voluntary hospitals. It is as yet too early to make any forecast as to the future of this type of appointment in the City's service, but the experiment is undoubtedly a forward step in the interests of citizens and hospitals alike.

Works of Modernisation and Improvement.

All-round modernisation continues to be carried out, and in addition to minor improvements the following are some of the special works which were either authorised or completed during the year 1933:—

Ward refrigerators were installed in pavilions at Withington and Crumpsall Hospitals in accordance with the policy referred to in previous reports. Modernisation of laundry machinery at Crumpsall Hospital was completed.

The X-ray plant at Crumpsall Hospital underwent considerable improvements to bring it up to modern standards of safety and efficiency.

A new electric passenger bed-lift was installed at Withington Hospital.

A new steam turbine-driven centrifugal pumping set for supplying hot water to wards was installed at Booth Hall Hospital.

A new milk store, a new cooking range, and new washing machinery were provided at Baguley Sanatorium.

Handicraft workshops for adult patients were provided at Abergele Sanatorium. At this sanatorium also the arrangements for providing hot water to wards were improved. During the year approval was given to a proposal to erect a canteen for the purpose of providing daily requisites for patients and teas and refreshments for visitors. The isolated position of the Sanatorium made this provision a necessity.

At Langho Colony a refrigerator was installed in the main kitchen. Electric lighting was provided for certain houses and farm buildings on the estate which had previously depended upon oil for lighting purposes.

At Monsall Hospital the heating of the nurses' and maids' dining rooms was improved by the installation of a new boiler.

Electric cooking replaced gas cooking at the Rose Hill Convalescent Home.

At Swinton Home a refrigerator and coal store for the kitchen were installed.

New Operating Theatre at Withington.

In 1933 the Public Health Committee finally approved the provision of a new operating theatre at Withington Hospital. The proposal has received the approval of the Ministry of Health, and it is anticipated that the contract for the erection of the theatre will be let in the Autumn of 1934. The progress of this matter has been slower than was hoped, and it is not possible this year to give details of the new theatre.

New Mortuary at Withington Hospital.

In 1933 the Public Health Committee and the City Council sanctioned the erection of a new mortuary at Withington Hospital. The new building is designed on the most modern lines. The mortuary contains a special viewing chapel, an undertakers' department, waiting room accommodation, adequate arrangements for post-mortem examinations, etc. The new mortuary will be completed and in use by the Autumn of 1934.

New Smallpox Hospital.

The difficulty of finding a suitable site continues to impede the provision of the new smallpox hospital which has been approved of by the City Council. During 1933 many possible sites were visited, but up to now it has not been possible to find a site which is both suitable and available.

Staff.

The staffs of the hospitals and institutions continue to render good service. 1933 is noteworthy in that it witnessed the last completed year of service of Mr. and Mrs. G. E. Hill, Master and Matron respectively of the Crumpsall Institution. Mrs. Hill retired early in 1934 through ill health, and under the terms of his appointment Mr. Hill retired at the end of March, 1934. The Public Health Committee by resolution formally recorded their appreciation of the services of both these officers whose record under the Board of Guardians and the Corporation was one of continuous success. Mr. F. O. Schofield was appointed Master and Miss L. Ford Matron in succession to Mr. and Mrs. Hill. At Withington Institution, Mr. W. H. Woodhall became Master and Miss C. Robertson Matron. Formerly Mrs. C. J. Firth was Matron and Acting-Master of this Institution. Mrs. Firth's retirement, owing to ill health, was noted in the last report.

Much work was done during the year in the formulation of a scheme for the reorganisation of the medical staffing of the hospitals. This scheme, which provides for the appointment of medical officers of adequate qualifications and experience to the senior resident positions, has since been approved by the City Council and comes into operation in 1934.

Tables and Special Reports.

The tables of statistics given at the end of this portion of the report are based on those given in the annual return to the Ministry of Health (Form Hospital 6). The usual reports on the year's working at Monsall Hospital, and Baguley and Abergele Sanatoria, will be found on pages 113 to 170 of this report. In addition, special reports for this year have been prepared by Dr. W. A. Ramsay, Medical Superintendent of Crumpsall Hospital, and Dr. J. D'Ewart, Medical Superintendent of Booth Hall Hospital, and these are given on pages 110 to 112 of this report.

Recovery of Costs of Hospital Maintenance.

The cost of hospital maintenance is recovered according to the means of the patient or the patient's family. Both the assessment of the capacity to pay and the actual recovery of costs on this basis is effected by the Public Assistance Department. The assessment is based upon the information contained in the Hospital and Public Assistance records of the case and family. During the financial year ending March 31st, 1933, the amount so recovered reached a total of £42,516, which was made up as follows:—

From	Booth Hall	Crumpsall	Langho	Rose Hill	Withington
	£	£	£	£	£
Paying patients at a fixed weekly charge	220	3,614	—	—	8,144
Relatives and patients according to means ..	1,840	12,766	1,309	124	14,499

Convalescent Homes.

The particulars given in past reports of the Convalescent Homes service have been somewhat abbreviated, but this year it has been found possible to provide a rather more informative statement, which appears below:—

Number of patients in Convalescent Homes, January 1st, 1933..		174
Number admitted January 1st to December 31st, 1933—		
Adults	151	
Children	369	
		520
Number discharged January 1st to December 31st, 1933—		
Adults	152	
Children	380	
		532
Number of patients remaining December 31st, 1933..		162

Analysis of Admissions to the various Convalescent Homes, etc.

Name of Home, etc.	Class and Number of Patients	
	Adults	Children
Southport Convalescent Hospital, Southport	134	—
Devonshire Hospital, Buxton	2	—
Lear Home of Recovery, West Kirby	15	—
Dr. Garrett Memorial Home, Conway	—	341
Royal Alexandra Hospital, Rhyl	—	4
Children's Convalescent Home, West Kirby	—	22
Lear Home of Recovery, West Kirby	—	2
	151	369

The amount expended on the provision of clothing to enable patients to proceed to Convalescent Homes during the year ended 31st December, 1933, was £743 13s. 3d.

The amount of money expended on outfits of clothing during this year shows an increase of approximately £17 on the amount expended in 1932. The increase concerns the Public Assistance accounts, as the Public Health expenditure is slightly lower (£9) this year than the 1932 figure.

Since the St. Fechan's Sanatorium, Ecclefechan, was closed in May, 1932, there has been a difficulty in placing boys of 15 and 16 years of age in suitable convalescent homes. Fortunately not many boys of this age have been recommended for convalescent treatment during the year. The Southport Convalescent Hospital does accept boys of 16 years, but it is not very satisfactory to place boys of this age in a large convalescent hospital with adult companions. The Hospital and Convalescent Home, St. Annes-on-Sea, take boys from 16 and 14 years respectively. These homes will shortly be visited with a view to determining their suitability for the Committee's requirements.

Since July, 1932, no patients have been sent to the Eastby Sanatorium, Skipton, as the type of patient formerly maintained at this Sanatorium can now be better provided for under the provisions made by the tuberculosis section of the department.

During 1933 a new school was added to the Dr. Garrett Memorial Home, Conway.

At this home (apart from the conditions for which the patients were admitted) one case of tonsilitis, one accident (dislocated wrist and fractured arm), a case of abscess of the thigh, two cases of definite diphtheria and one case of suspected diphtheria, two cases of scabies, one case of scarlet fever and one case of membraneous croup. One patient died from endocarditis.

At the Children's Convalescent Home, West Kirby, there were three cases of ringworm, one case of chicken pox, and one case of diphtheria. A patient at this home died from pneumonia.

One patient at the David Lewis Epileptic Colony died at the close of the year.

Public Vaccination.

The number of public vaccinators is 25, and there are four vaccination officers.

The percentage of infants successfully vaccinated in Manchester—52·45 per cent. in 1932—continues to be considerably higher than in England and Wales as a whole. The percentages for each of the five years 1927-1931 were :—

	England and Wales	Manchester
1927	44·9	59·5
1928	42·6	55·0
1929	39·9	52·8
1930	40·1	52·5
1931	39·0	51·7

The following is a summary of the return made to the Ministry of Health of vaccinations for the year *1932 :—

	Total	Percentage
Number of successful vaccinations..	6,668	52·45
Number insusceptible of vaccination	44	0·35
Number of exemptions	3,844	30·24
Number died unvaccinated	809	6·36
Number not traceable : removed to other districts or postponed	1,348	10·6
Number of children born	12,713	100·00

* Returns for vaccination are always for the year preceding the year covered by this report. This is unavoidable, since the period of four months from the date of birth is allowed for exemption purposes.

District Medical Service.

The system of providing district medical service has not been altered since the last report. The scheme for reorganising this service on panel lines has, however, proceeded a stage further in that it has been the subject of conference between the Public Health Committee and the Public Assistance Committee. The Council, pending the completion of the scheme, has granted bonuses to the district medical officers, which brings their remuneration more into line with the work done than has been the case for several years.

The figure of 1933 given in the following table shows that the work of this section of public medical service continues to increase rapidly :—

Year	Number of Patients seen
1919	5,948
1925	15,582
1930	22,163
1931	30,184
1932	37,939
1933	56,000 (approx.)

TABLE SHOWING STAFFING AND NUMBER OF BEDS PROVIDED AT THE CITY HOSPITALS, 1933.

	GENERAL HOSPITALS			SPECIAL ESTABLISHMENTS			INSTITUTIONS		
	Crumpsall Hospital	Withington Hospital	Booth Hall Hospital	Rose Hill Convalescent Home	Langho Colony	Swinton Home	Crumpsall Institution (Mental Wards)	Withington Institution (Aged and Infirm Wards)	TOTALS
Number of Resident Medical Staff	5	6	6	..	1	..	..	..	18
Number of visiting staff ..	9	16	10	1	..	1	..	..	37
Specialist services supplied*	A, B, C, D, E, F, G, H, I, J, K, M	A, B, C, D, E, F, G, H, I, J, K, L, M	A, D, E, F, G, H, I, J, K	..	..	..	..	..	..
Number of									
(*a*) Trained nurses	86	91	44	3	2	3	..	3	232
(*b*) Probationer nurses ..	147	167	110	..	..	..	..	..	424
(*c*) Assistant nurses	55	12	20	..	..	..	..	..	87
(*d*) Male attendants	13	6	..	..	30	..	..	..	49
(*e*) Attendant nurses ..	..	..	9	..	33	..	..	51	93
(*f*) Superintendents	..	..	..	..	..	..	3	..	3
(*g*) Assistant Superintendents	..	..	..	..	..	..	3	..	3
(*h*) Charge attendants ..	..	..	..	..	..	..	10	..	10
(*i*) Mental nurses	..	..	..	..	..	..	34	..	34
(*k*) Mental attendants ..	..	..	..	..	..	23	59	..	82
TOTAL	301	276	183	3	65	26	109	54	1,017
Total number of beds provided for sick and maternity cases at 31st December, 1933—									
(*a*) For men	677	528	..	..	285	..	356	190	2,036
(*b*) For women	739	650	..	..	340	..	310	190	2,229
(*c*) For children (under 16 years of age), excluding cots in maternity wards ‡ ..	49	13	760	123	..	144	..	..	1,089
TOTAL	1,465	1,191	760	123	625	144	666	380	5,354

* Special services supplied—

A Surgeon
B Physician
C Gynaecologist and Obstetrician
D Ophthalmic Surgeon
E Orthopædic Surgeon
F Aurist and Laryngologist
G Children's Specialist
H Pathologist
I Dermatologist
J Radiologist
K Dentist
L Tuberculosis Specialist
M Radium Therapist

‡ The inclusion of cots in maternity wards would increase the total number of beds in Crumpsall and Withington Hospitals by 82 and 69 respectively.

TABLE SHOWING THE CLASSIFICATION OF ACCOMMODATION AND THE NUMBER OF BEDS OCCUPIED ON 31st DECEMBER, 1933.

CLASSIFICATION OF WARDS	GENERAL HOSPITALS			SPECIAL ESTABLISHMENTS			INSTITUTIONS		BED T
	Crumpsall Hospital	Withington Hospital	Booth Hall Hospital	Rose Hill Convalescent Home	Langho Colony	Swinton Home	Crumpsall Institution (Mental Wards)	Withington Institution (Aged and Infirm Wards)	Provided
1. MEDICAL.									
WARDS—Number of ..	18	10	..	..	..	..	..	..	
BEDS—									
Men—Provided	304	110	..	..	..	..	..	..	414
Occupied	189	94	..	..	..	..	..	..	
Women—Provided ..	220	115	..	..	..	..	..	..	335
Occupied ..	138	103	..	..	..	..	..	..	
TOTAL—Provided ..	524	225	..	..	..	..	..	..	749
Occupied ..	327	197	..	..	..	..	..	..	
2. SURGICAL.									
WARDS—Number of ..	8	12	..	..	..	..	..	..	
BEDS—									
Men—Provided	156	109	..	..	..	..	..	..	265
Occupied	102	101	..	..	..	..	..	..	
Women—Provided ..	128	147	..	..	..	..	..	..	275
Occupied ..	76	103	..	..	..	..	..	..	
TOTAL—Provided ..	284	256	..	..	..	..	..	..	540
Occupied ..	178	204	..	..	..	..	..	..	
3. CHRONIC SICK.									
WARDS—Number of ..	31	27	..	..	..	..	..	2 blocks	
BEDS—									
Men—Provided	193	183	..	..	..	..	..	190	566
Occupied	189	155	..	..	..	..	..	187	
Women—Provided ..	229	221	..	..	..	..	..	190	640
Occupied ..	215	218	..	..	..	..	..	186	
TOTAL—Provided ..	422	404	..	..	..	..	..	380	1206
Occupied ..	404	373	..	..	..	..	..	373	
4. CHILDREN.									
WARDS—Number of	1	1	17	..	..	8	..	..	
BEDS—									
Provided	40	13	760	123	..	144	..	..	1080
Occupied	20	5	560	99	..	133	..	..	
5. VENEREAL.									
WARDS—Number of ..	3	..	..	..	..	..	..	..	
BEDS—									
Men—Provided	24	..	..	..	..	..	..	..	24
Occupied	13	..	..	..	..	..	..	..	
Women—Provided ..	48	..	..	..	..	..	..	..	48
Occupied ..	18	..	..	..	..	..	..	..	
Children—Provided ..	9	..	..	..	..	..	..	..	9
Occupied ..	4	..	..	..	..	..	..	..	
TOTAL—Provided ..	81	..	..	..	..	..	..	..	81
Occupied ..	35	..	..	..	..	..	..	..	

TABLE SHOWING THE CLASSIFICATION OF ACCOMMODATION AND THE NUMBER OF BEDS OCCUPIED ON 31ST DECEMBER, 1933—*continued*

IFICATION OF WARDS	GENERAL HOSPITALS			SPECIAL ESTABLISHMENTS			INSTITUTIONS		BED TOTALS	
	Crumpsall Hospital	Withington Hospital	Booth Hall Hospital	Rose Hill Convalescent Home	Langho Colony	Swinton Home	Crumpsall Institution (Mental Wards)	Withington Institution (Aged and Infirm Wards)	Provided	Occupied
TERNITY.										
VARDS—Number of ..	6	5	..	..	..	..	..	..		
EDS— Provided	114	113	..	..	..	..	..	..	227	
Occupied	76	73	..	..	..	..	..	..		149
BERCULOSIS.										
VARDS—Number of ..	..	14	..	..	..	..	..	..		
EDS— Men—Provided	..	126	..	..	..	..	..	..	126	
Occupied	..	109	..	..	..	..	..	..		109
Women—Provided ..	..	54	..	..	..	..	..	..	54	
Occupied ..	..	48	..	..	..	..	..	..		48
TOTAL—Provided ..	..	180	..	..	..	..	..	..	180	
Occupied ..	..	157	..	..	..	..	..	..		157
NTAL WARDS.										
EDS— Men—Provided	..	..	..	..	..	..	356	..	356	
Occupied	..	..	..	..	..	..	319	..		319
Women—Provided ..	..	..	..	..	..	..	310	..	310	
Occupied ..	..	..	..	..	..	..	337	..		337
Children—Occupied ..	..	..	..	..	..	..	4	..		4
TOTAL—Provided ..	..	..	..	..	..	..	666	..	666	
Occupied ..	..	..	..	..	..	..	660	..		660
ILEPTICS.										
OMES—Number of ..	..	..	..	..	11	..	..	..		
EDS— Men—Provided	..	..	..	..	285	..	..	..	285	
Occupied	..	..	..	..	285	..	..	..		285
Women—Provided ..	..	..	..	..	340	..	..	..	340	
Occupied ..	..	..	..	..	340	..	..	..		340
TOTAL—Provided ..	..	..	..	..	625	..	..	..	625	
Occupied ..	..	..	..	..	625	..	..	..		625

STATISTICS RELATING TO THE YEAR ENDED 31ST DECEMBER, 1933.

In-Patients	General Hospitals			Special Establishments			Institutions		Tot
	Crumpsall Hospital	Withington Hospital	Booth Hall Hospital	Rose Hill Convalescent Home	Langho Colony	Swinton Home	Crumpsall Institution (Mental Wards)	Withington Institution (Aged and Infirm Wards)	
1. Total number of admissions (including infants born in hospital	12,040	13,081	4,919	585	69	41	993	508	32,
2. Number of women confined in hospital	1,794	1,692	..	..	..	..	..	..	3,
3. Number of live births ..	1,670	1,608	..	..	..	..	..	..	3,
4. Number of still-births ..	124	84	..	..	..	..	..	..	
5. Number of deaths among the newly-born (i e., under four weeks of age)*	59	47	..	..	..	..	..	..	
6. Total number of deaths among children under one year (including those given under five)	66	58	146	..	..	..	..	..	
7. Number of maternal deaths among women confined in hospital	13	16	..	..	..	..	..	..	
8. Total number of deaths ..	1,229	1,651	342	..	21	2	211	136	3,
9. Total number of discharges (including infants born in hospital)	11,140	11,282	4,602	587	41	41	783	354	28,
10. Duration of stay of patients included in 8 and 9 above—									
(*a*) Four weeks or less..	9,658	9,183	3,027	178	3	3	692	29	22,
(*b*) Exceeding four but under thirteen weeks	1,855	2,954	1,426	274	5	..	136	113	6,
(*c*) Exceeding thirteen weeks	856	796	491	135	54	40	166	343	2
11. Number of beds occupied—									
(*a*) Average during the year	1,113	1,032	531	110	624	140	649	359	4,
(*b*) Highest	1,308 on 4-1-33	1,159 on 25-1-33	682 on 20-1-33	127 on 31-10-33	629 on 10-8-33	145 on 9-5-33	674 on 18-11-33	375 on 29-10-33	.
(*c*) Lowest	1,102 on 26-8-33	947 on 23-12-33	444 on 28-8-33	90 on 27-4-33	612 on 11-2-33	133 on 31-12-33	627 on 5-9-33	346 on 21-6-33	.
12. Number of surgical operations under general anæsthetic (excluding dental operations)..	979	1,312	2,127	..	..	..	..	..	4,
13. Number of abdominal sections	258	345	138	..	..	..	..	..	

* This figure relates only to children born in hospital.

STATISTICS RELATING TO THE YEAR ENDED 31ST DECEMBER, 1933—*continued*

OUT-PATIENTS	GENERAL HOSPITALS			SPECIAL ESTABLISHMENTS			INSTITUTIONS		TOTALS
	Crumpsall Hospital	Withington Hospital	Booth Hall Hospital	Rose Hill Convalescent Home	Langho Colony	Swinton Home	Crumpsall Institution (Mental Wards)	Withington Institution (Aged and Infirm Wards)	
Nature and scope of the out-patient provision for continuation of treatment, emergency treatment, consultations, or otherwise	Massage, Radiant Heat, Diathermy, Electrical Treatment, Insulin, Sunlight, and X-ray Treatment given to cases who have been or may become In-patients		X-ray examination	..	..	..	..	..	..
Total number of persons seen in the out-patient department	1,002	647	..	..	..	..	..	..	1,649
Number of these persons who were subsequently admitted for in-patient treatment in the Institution	..	8	..	..	..	..	..	..	8
Number of these persons who had received in-patient treatment in the Institution	260	639	..	..	..	..	..	..	899
Total number of attendances in the out-patient department	15,659	10,017	..	..	..	..	..	..	25,676
Number of women seen and the total number of attendances at Ante-natal Clinic—									
Women	1,839	1,720	..	..	..	..	..	..	3,559
Attendances	12,773	6,684	..	..	..	..	..	..	19,457

Classification of In-Patients who were Discharged from or who Died in the Various Institutions during the Year ended 31st December, 1933.

	ADULTS								CHILDREN (Under 16 Years of Age)								Totals	
	Crumpsall Hospital		Crumpsall Institution (Mental Wards)		Withington Hospital		Langho Colony		Booth Hall Hospital		Crumpsall Hospital		Crumpsall Institution (Mental Wards)		Withington Hospitals			
	Dis-charged	Died	Dis-charged	Died	Dis-charged	Died	Dis-charged	Died	Dis-charged	Died	Dis-charged	Died	Dis-charged	Died	Dis-charged	Died	Dis-charged	Died
Acute infectious disease	70	48	..	..	..	1	..	..	305	10	..	..	..	..	..	..	375	59
Influenza	353	54	..	..	174	2	..	..	34	1	..	..	..	..	..	..	561	57
Tuberculosis—																		
Pulmonary	30	16	..	..	553	257	..	..	19	5	..	..	..	..	..	..	602	278
Non-pulmonary	18	11	..	..	38	11	..	..	40	24	..	..	..	..	..	..	96	46
Malignant disease	94	99	..	..	222	220	1	..	2	3	..	..	..	..	..	..	319	322
Rheumatism—																		
(1) Acute rheumatism, rheumatic fever, together with sub-acute rheumatism and chorea	169	3	..	..	45	1	..	..	243	1	..	..	..	..	..	..	457	5
(2) Non-articular manifestations of so-called "rheumatism" (muscular rheumatism, fibrositis, lumbago, and sciatica	155	8	..	..	128	1	..	..	12	..	..	..	..	..	..	..	295	9
(3) Chronic arthritis	..	..	..	..	166	1	..	..	3	..	..	..	..	..	..	..	169	1
Venereal disease	299	3	..	..	..	..	..	..	7	3	35	2	..	..	..	..	341	8
Puerperal pyrexia	..	..	..	..	6	..	..	..	..	..	..	..	..	..	..	..	6	..
Puerperal fever—																		
(a) Women confined in the hospital	..	3	..	..	15	..	..	..	..	..	..	..	..	..	..	..	15	3
(b) Admitted from outside	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	3	..
Other diseases and accidents connected with pregnancy and child-birth	57	4	..	..	700	3	..	..	..	..	..	..	..	..	..	..	757	7
Mental diseases—																		
(a) Senile dementia	11	13	..	70	..	..	..	..	..	..	..	..	..	..	..	..	11	83
(b) Other	37	4	624	104	..	..	..	..	8	1	..	..	1	..	..	..	670	109
Senile decay	106	100	..	18	14	3	..	1	..	..	..	..	..	..	..	..	120	122
Accidental injury and violence	332	28	156	19	707	39	..	..	209	13	..	..	2	..	1	..	1,407	99
In respect of cases not included above—Diseases of the																		
Nervous system and sense organs	327	50	..	..	434	27	..	..	199	15	..	..	..	..	..	..	960	92
Respiratory system	913	251	..	..	1,285	264	..	3	894	134	..	..	..	..	8	2	3,100	654
Circulatory system	406	100	..	..	714	564	..	3	33	20	..	..	..	..	..	4	1,153	691
Digestive system	718	39	..	..	1,324	102	..	1	274	66	..	..	..	..	4	..	2,320	208
Genito-urinary system	793	43	..	..	675	67	1	1	105	5	..	..	..	..	..	..	1,574	116
Skin	1,056	42	..	..	415	11	..	..	199	5	..	..	..	..	10	3	1,680	61
Other diseases	1,408	235	..	..	230	3	..	..	2,016	36	102	7	..	..	178	2	3,934	283
Mothers and infants discharged from maternity wards and not included in above figures—																		
Mothers	2,030	9	..	..	1,672	16	..										3,702	25

PATHOLOGICAL LABORATORY,
DELAUNAYS ROAD, CRUMPSALL.

Summary of Examinations made from 1st January to 31st December, 1933.

	Crumpsall Hospital	Booth Hall Hospital	Withington Hospital	Total for all Hospitals
Diphtheria tests	31	12,662	132	12,825
Sputum tests for tubercle bacilli	1,233	439	2,920	4,592
Smears for Gonococcus	1,772	104	153	2,029
Blood—				
Wassermann reaction	1,251	90	342	1,683
Count	264	32	229	525
Reticulocytes	30	6	13	49
Sugar	428	3	1,224	1,655
Urea	180	20	232	432
Culture	11	2	37	50
Agglutination test	23	12	17	52
Grouping	57	1	11	69
Urine—				
Microscopical examination	359	154	161	674
Cultural examination	626	182	230	1,038
Chemical examination	121	61	122	304
Pregnancy test (Friedman)	32	—	12	44
Fæces—				
Microscopical examination	12	38	56	106
Cultural examination	40	134	23	197
Occult blood	20	3	14	37
Cerebrospinal fluid—				
Microscopical examination	92	146	52	290
Cultural examination	9	12	8	29
Chemical examination	84	116	42	242
Wassermann	66	26	24	116
Lange colloidal gold test	20	Nil	6	26
Pus—				
Microscopical examination	146	445	176	767
Cultural examination	58	368	97	523
Exudates, effusions—				
Microscopical examination	76	52	85	213
Cultural examination	14	6	8	28
Tumours	190	65	190	445
Post-mortem examinations	98	59	11	168
Fractional gastric analysis	27	2	37	66
Milks	2	33	Nil	35
Vaccines	160	26	20	206
Miscellaneous, including van den Bergh test, serum calcium, serum cholesterol estimations, blood coagulation and bleeding times, platelet counts, supervision of blood transfusions, basal metabolic rate estimations, swabs for meningococcus, ringworm tests, chemical examinations of fæces, etc.	44	33	12	89
	7,576	15,332	6,696	29,604

Milks, bacteriological examinations from—	
Styal Cottage Homes	3
Langho Colony	4
	29,611

CRUMPSALL HOSPITAL.

Annual Report by Dr. W. A. Ramsay, M.A., M.D., Medical Superintendent.

The number of patients admitted during the year was 12,040, representing an increase of 566 over the figure for the previous year. The numerical factor alone does not, however, convey an adequate picture of the changing quality of the work that is going forward.

The proportion of cases of serious illness demanding greater efforts from doctor and nurse alike is steadily increasing as the public discovers that the hospital is well equipped for the treatment of acute disorders, and possesses ample accommodation for different categories of diseases. Save during the influenza epidemic at the beginning of the year, the bed availability has always been adequate to the demand. The need for sufficient classification of different kinds and conditions of diseases and patients renders it imperative that a fair proportion of empty beds be always available.

There is no out-patient department in the true meaning of the term in the hospital, but continuation treatment is carried out at the wards and in the special departments. A Diabetic Clinic which is held once a week fulfils a useful function in the treatment of this chronic disease.

The ante-natal clinic, which is housed in commodious premises at the annexe, dealt with 1,839 patients who made 12,773 attendances. It is scarcely necessary to stress the valuable nature of the work carried out in this department in close co-operation with the ante-natal and maternity wards in the hospital.

The massage and electrical department has an up-to-date equipment and a staff of four whole-time masseuses. During the year under review 596 patients were treated, the total number of treatments being 15,831. Ultra-violet light derived from the Kromayer, Mercury Vapour, and Carbon-arc lamps has been extensively used in the treatment of acute and chronic suppurative conditions such as osteomyelitis, carbuncles, and indolent ulcers with highly satisfactory results ; healing is hastened and an economy of dressings effected. The infra-red lamp, which has been recently acquired, promises to give good results in the treatment of chronic rheumatic and kindred conditions.

The X-ray department contains two Radiographic couches, an upright screening stand, and a medium therapy unit. The apparatus has recently been made shock-proof, thus protecting the operator from the danger of X-ray emanations and reducing the danger of electrical shock to a minimum. Last year 4,219 examinations were carried out and 209 treatments given.

The orthopædic wards have very successfully tackled the treatment of fracture of the femur in elderly persons, always a tedious condition to treat, necessitating a prolonged period of hospitalisation. Prolonged and patient after treatment is necessary to ensure the good results which have been achieved in people beyond middle age.

During the year 300 examinations were made by the Visiting Aurist and 313 examinations by the Visiting Ophthalmologist.

639 patients were seen by the Dental Surgeon.

Notes.

During the past year three wards have been reconstructed and modernised in pursuance of the definite programme approved by the Committee. These wards are now being used for surgical cases.

As an experiment, one of the labour rooms in the maternity block has been (as far as possible) rendered sound-proof in the interests of lying-in patients.

Extraction fans, which have been installed in the theatre sterilising rooms, have proved very successful in preventing the condensation of steam in the theatres. A steam suction apparatus for use in abdominal operations has also been added to the equipment.

A mechanical dish-washing machine is now is use in the staff-kitchen and has been found to save both time and labour.

Health of the Nursing Staff.

During the year there were 68 cases of illness in the resident nursing staff, a large proportion occurring during the influenza epidemic at the beginning of the year. The average period of disability was 25 days.

Among the non-resident officers there were 55 cases of sickness, the average period being 28 days. Apart from influenza there have been no diseases of an epidemic nature.

BOOTH HALL HOSPITAL.

Annual Report by Dr. J. T. D'Ewart, Medical Superintendent.

During the year 1933 no structural alterations took place in the hospital. The main administrative event was the cessation of admission of most infectious cases to the hospital. This has had a considerable effect in reducing the numbers treated. First, there was the considerable reduction in the actual number of admissions, and secondly, there was the reduction in quarantine of various wards, so permitting of greater facility in the use of beds. Considerable improvement was anticipated, but the actual results were far in advance of expectation. It is to this cause that the further reduction in "duration of stay" may be mainly attributed.

Another development has been the further use of the hospital by the admission of emergency cases from the voluntary hospitals. 18 cases of burns (5 died), 106 scalds (5 died), and 88 fractures were admitted, and 236 emergency operations took place during the year.

With the kind assistance of Dr. Herd, the School Medical Officer, an investigation into the results of the fracture treatment in this hospital during the past five years has been instituted, a complete list of the cases treated during that time, with the schools they attended, being prepared. This report should be available this year.

The detection of cases of rhinitis in which the B. diphtheriæ was present has been frequent, both on admission and during stay in hospital. Nose and throat swabs of all transfers to other institutions are taken before they leave us, several cases being thereby held back. A comparison during the period 1st January to October 31st, 1933, is interesting :—

					NUMBER		PERCENTAGE	
		Negative Swabs	Positive Swabs	Per cent. Positive	Virulent	Non-Virulent	Virulent	Non-Virulent
Admissions	Nose ..	4,020	32	·79	18	14	56	44
	Throat ..	4,040	21	·52	11	10	52	48
Discharges	Nose ..	890	15	1·7	4	11	27	73
	Throat ..	890	5	·56	1	4	20	80

The treatment of these cases by X-rays is carried out immediately they are detected with the result that many of them become negative after one treatment, thereby minimising infectivity and avoiding transfer to the infectious disease hospital. This treatment has given us the best results of any yet adopted.

Avertin is still being used as our basal anæsthetic, and since its adoption in October, 1930, 4,280 cases have been anæsthestised by this method without any untoward case.

During the year 25 nurses sat for the State Final Examination for Sick Children's Nurses, all being successful.

In the kitchen the gas ovens were replaced by electric ovens, which have given satisfaction.

MONSALL HOSPITAL.

By D. Sage Sutherland, M.D., Medical Superintendent.

At the close of the year 1932, 368 patients remained in hospital. During 1933, 4,183 were admitted. The total number under treatment during the year was 4,551. There were 236 deaths and 3,894 were discharged cured.

421 remained in hospital at the end of the year.

The admissions showed a decrease on the previous year of 68.

The largest number of cases admitted to hospital was during the month of November, when 444 cases were received. The maximum number of patients in hospital was 498 on December 13th, and the minimum number was 254 on August 20th, 1933.

The average daily number of patients in hospital for the year was 370·3, as against 379·8 in the year 1932.

The average duration of stay for each patient was 32·1 days, as against 32·2 in 1932.

The fatality rate for all cases under treatment was 5·7 per cent., as compared with 4·49 during 1932.

In 376 cases, or 9·1 per cent., the diagnosis was altered from the certified disease.

SCARLET FEVER.

199 cases remained in hospital at the end of the previous year, and during the year 1,573 were admitted, showing a decrease of 477 on the previous year. The number of discharges was 1,595 and 16 deaths occurred during the year, giving a death rate of 0·99 per cent. During the previous year the death rate was 0·68 per cent.

The average stay in hospital was 39·1 days, showing an increase of 2·3 days on the previous year. The average number of days in hospital of fatal cases was 24·8.

The following are the causes of death in the 16 fatal cases of scarlet fever :—

Septic scarlet fever	1
Septic scarlet fever and naso-pharyngeal diphtheria ..	1
Septic scarlet fever, bilateral quinsy, and cellulitis (neck)	1
Erysipelas	2
Acute appendicitis, peritonitis	1
Acute bronchitis	2
Rheumatic fever	1
Pericarditis	1
Streptococcal meningitis	1
Purpura fulminans	1
Broncho-pneumonia, convulsions	1
Broncho-pneumonia, pericarditis	1
Mastoid infection	1
Anaphylaxis	1

Scarlet Fever Return Cases.

The number of cases of scarlet fever discharged from hospital during the year 1933 was 1,595. The number of true return cases for the year was 36, the return case rate being therefore 2·3 per cent., as against 3·8 per cent. for 1932.

The average duration of stay in hospital of cases giving rise to secondary cases was 36·6 days. The average interval elapsing between the discharge of the primary case from hospital and the onset of the disease in the secondary case was 12·1 days.

Return cases infected—

During	1st	week	after	discharge	of primary case	.. 26·3	per cent.
,,	2nd	,,	,,	,,	,,	.. 39·7	,,
,,	3rd	,,	,,	,,	,,	.. 17·0	,,
,,	4th	,,	,,	,,	,,	.. 17·0	,,

Two cases each gave rise to two return cases.

Thirty-two cases each gave rise to one return case.

Age Distribution of Infecting Cases.

	Discharges	Infecting Cases	Percentage
Under 1 year	5	—	—
1— 4 years	466	7	1·5
5— 9 ,, ...	683	16	2·3
10—14 ,, ...	292	6	2·1
15—19 ,, ...	59	1	1·7
20+	90	4	4·4
Total	1,595	34	2·1

Monthly Table.

1932	Discharges	Return Cases	Percentage
January	169	12	7·1
February	126	—	—
March	138	3	2·2
April	122	3	2·5
May	143	2	1·4
June	144	1	0·7
July	117	3	2·6
August	85	—	—
September	98	2	2·2
October	121	2	1·7
November	161	4	2·5
December	171	4	2·3
Total	1,595	36	2·3

Minimum—February and August, no return cases.
Maximum—7·1 per cent., January.

The total number of scarlet fever cases receiving antitoxin on admission was 551 = 35 per cent.

In only three patients was a condition noted after discharge to which infection might have been attributed, and these were tonsillitis, rhinorrhœa, and otorrhœa. The other infecting cases remained free from discharges and other complications at the time of the occurrence of the secondary case.

AGE INCIDENCE OF SCARLET FEVER CASES.

Age Incidence	Number	Percentage
0—5 years	471	29·2
5—10 ,, ...	683	42·4
10—15 ,, ...	292	18·1
15—20 ,, ...	59	3·7
20+	90	5·6

COMPLICATIONS IN SCARLET FEVER.

Complication	Number	Percentage
Rhinorrhœa in Convalescence..	315	19·6
Otorrhœa	177	11·0
Nephritis	23	1·4
Albuminuria in Convalescence	92	5·7
Adenitis and Abscess	3	·2
Endocarditis	6	·4

Active Immunisation against Diphtheria in Patients admitted to Hospital suffering from Scarlet Fever.

969 cases of scarlet fever were completely immunised against diphtheria and 56 were incompletely immunised.

DIPHTHERIA

The number of patients admitted certified as diphtheria was 1,039, as against 834 in 1932, showing an increase of 205. There were 955 discharges and 74 deaths. 25 deaths occurred within 48 hours of admission. The gross fatality rate was 7·2 per cent., as against 8·4 during the previous year, or 4·9 excluding the 25 deaths referred to.

244 of the cases were diphtheria carriers and showed no clinical symptoms of the disease. The fatality rate when these cases are excluded is 9·4 per cent.

Tracheotomy was performed in 16 cases, as against 11 in the previous year. 50 per cent. were fatal, as against 36 per cent. in 1932.

The average stay in hospital of the patients who recovered was 42·5 days and for fatal cases 8·2 days. 158 cases certified diphtheria were found to be suffering from some other disease ; of these cases 8 proved fatal.

Investigation of the Gravis, Mitis, and Intermediate Types of C. Diphtheriæ and their Clinical Significance.—

During the year 1933 an investigation of the types of C. Diphtheriæ and their clinical significance has been carried out in collaboration with the Department of Bacteriology and Preventive Medicine of the University of Manchester.

542 consecutive cases of diphtheria and carriers received into Monsall Hospital have been investigated. 129 were found to be of the gravis type, 104 mitis, 296 intermediate, 8 atypical, and 5 mixed.

The contention of the Leeds workers that the gravis type is a much more potent cause of severe and fatal infections than the mitis type was confirmed, although in Manchester the intermediates are at least the equal of the gravis type in this respect.

It was also established that in Schick negative people, gravis and intermediate types both caused clinical diphtheria. There were no instances in this series of infection by a mitis strain.

A detailed account of this investigation may be found in the Journal of Pathology and Bacteriology, January, 1934.

Intravenous Serum Treatment of Diphtheria.

Of 1,039 admissions 138 cases were so severe as to necessitate treatment with serum by intravenous injection. The following table illustrates the severity of this type of diphtheria :—

Total number of cases treated with intravenous antidiphtheritic serum	138
Recoveries	90
Deaths	48
Case mortality	34·8 per cent.

Fifteen deaths occurred within 48 hours of admission, and if these are excluded the case mortality is 26·8 per cent.

The average number of days in hospital of the patients who recovered was 61.

Of the 90 patients who eventually recovered, 34 (37·8 per cent.) suffered from post-diphtheritic paralyses. Two patients died during the late paralytic stage, from concurrent palatal, pharyngeal, and diaphragmatic paralysis.

TABLE SHOWING PARALYSES AS THEY OCCURRED IN THOSE PATIENTS WHO RECOVERED.

Palatal paralysis	19
Palatal and ciliary paralysis	10
Palatal, ciliary and pharyngeal paralysis	1
Palatal and pharyngeal paralysis	2
Palatal and facial paralysis	1
Palatal, facial and pharyngeal paralysis	1
	34

A preliminary intramuscular dose of 16,000 units is usually given before an intravenous injection is made, when, according to the severity of the case, 60,000 units and upwards of super-concentrated serum is administered.

Laryngeal Diphtheria.

The number of cases in which tracheotomy was necessary was 16, an increase of 5 on the number of operations in 1932. The proportion of cases requiring tracheotomy has been less than in previous years.

In three cases tracheotomy was performed before admission; of these, two recovered and one died.

TRACHEOTOMY CASES.

	Cases	Deaths
Under 1 year	..	..
1—2 years	3	1
2—3 „	2	1
3—4 „	4	..
4—5 „	2	2
5+ „	5	4
Total	16	8
Mortality Rate	50 per cent.	

In one fatal case laryngeal diphtheria had occurred as a sequel to measles—broncho-pneumonia, the latter condition being present on admission. Five other fatal cases were associated with extensive involvement of the fauces and naso-pharynx.

TOTAL DIPHTHERIA CASES—785.

(excluding 244 carriers)

Age Incidence	Number	Percentage	Percentage Death Rate
0— 5 years	227	28·9	13·7
5—10 ,, ...	314	40·0	9·2
10—15 ,, ...	158	20·1	7·0
15—20 ,, ...	35	4·5	..
20 + ...	51	6·5	5·9

COMPLICATIONS IN DIPHTHERIA.

Complication	Number	Percentage
Otitis Media	77	7·5
Palatal Paresis	35	4·5
Pharyngeal Paralysis	7	·9
Diaphragmatic Paralysis	3	·4
Facial Paralysis	6	·8
Cycloplegia	12	1·5
Cardiac Arrythmia	12	1·5
Strabismus	9	1·1
Ptosis	1	·1
Mastoid Operation	1	·1
Bradycardia..	4	·5

Active Immunization against Scarlet Fever in Dick Positive Reactors admitted to Hospital suffering from Diphtheria.

Age	Total	+ ve	Percentage + ve	— ve	Completely Immunized	Incompletely Immunized or not Retested on Discharge
0— 1	21	5	23·8	16	1	4
1— 2	27	20	74·1	7	7	13
2— 3	54	33	61·1	21	11	22
3— 4	48	30	62·5	18	10	20
4— 5	72	50	69·4	22	22	28
5—10	313	140	44·7	173	63	77
10—15	161	58	36·0	103	20	38
15—20	47	25	53·2	22	13	12
20+	64	19	29·7	45	5	14
	807	380	47·1	427	152	228

ENTERIC FEVER GROUP.

In hospital at commencement of year	3
Admitted during year	13
Incorrectly diagnosed	4
Remaining in hospital at end of year	1
Discharged	10
Died	1
Fatality rate..	9 per cent.
Average day of disease on admission	20th
Average stay in hospital—Discharges	50·8 days
,, ,, ,, Deaths	9 ,,
Average age of patients	23·7 years

Other Diseases admitted as Enteric Fever:—

Colitis	1 case	Recovered
Enteritis	1 ,,	,,
Food poisoning	1 ,,	,,
CO poisoning	1 ,,	,,

The type of disease in cases discharged and died was as follows:—

Typhoid	8 cases
Paratyphoid	3 "

The complications were:—

Typhoid Fever—

Jaundice	1 case
Furunculosis	1 "
Albuminuria	1 "

Paratyphoid Fever—

Peritonitis. Perforation	1 case

In the fatal case the cause of death was:

Peritonitis. Perforation	1 case

ERYSIPELAS.

Two hundred and sixty-one cases were admitted, an increase of 88 on the previous year, and 239 cases were discharged. There were 21 deaths, giving a mortality rate of 8·1 per cent., as against 8·3 per cent. in the previous year.

There were 34 cases notified as erysipelas in which the original diagnosis had to be amended. The following is a list of the conditions in which alteration of the notified diagnosis had to be made:—

	Cases.
Erythema	10
Cellulitis	8
Dermatitis	4
Herpes ophthalmicus	1
Eczema	1
Food rash	1
Secondary syphilis	1
Sycosis barbæ	1
Furunculosis	1
Septic wound	1
Herpes face	1
Abscess nose	1
Abscess lip	1
Inflammation left eye socket	1
Inflammation of arm	1

MEASLES.

Three hundred cases were admitted during the year 1933 and 199 were discharged. 77 cases remained under treatment at the end of the year. There were 24 fatalities, giving a death rate of 10·8 per cent. 17 of the 24 fatal cases were due to broncho-pneumonia. This complication was present in 13 per cent. of the cases.

Although enteritis occurred in 11·2 per cent. of the cases, only 1 death occurred from this cause.

Attention is drawn to the very high incidence of otitis media—41 cases or 18 per cent. In 10 of these cases the condition was bilateral. Two mastoid operations were performed.

Complications in Measles.

Complication	Recovered	Died
Broncho-pneumonia	12	17
Enteritis	25	1
Otorrhœa	41	—
Adenitis	8	—
Bronchitis	29	—
Pneumonia	3	—
Impetigo	2	—
Rhinorrhœa	3	—
Blepharitis	2	—
Dermatitis	1	—
Conjunctivitis	2	—
Cerebral glioma	—	1
Convulsions	—	1
Tonsillitis	3	—
Stye	1	—

WHOOPING COUGH.

One hundred and nineteen cases of whooping cough were admitted during 1933, as against 39 in the previous year. There were 18 deaths, giving a death rate of 15·1 per cent., as against 12·8 in 1932.

Age	Number of Cases	Deaths	Percentage Death Rate
Under 1 year	21	8	38·1
1 year	24	3	12·5
2 years	21	4	19·0
3 ,, ...	15	1	6·7
4 ,, ...	17	2	11·8
5 + ...	21	—	—
	119	18	15·1

The causes of death in the 18 fatal cases, 8 of whom were under 1 year of age, were as follows :—

Broncho-pneumonia	12 cases
Convulsions	5 ,,
Tubercular meningitis..	1 case

The complications noted in the cases under treatment were as follows :—

Broncho-pneumonia	19 cases	=	16·0 per cent.
Convulsions	9 ,,	=	7·6 ,,

Treatment was continued by open-air methods, the administration of mixed vaccines and ultra-violet light.

The vaccine used was a proprietory preparation containing 500 millions Bordet's Bacillus, 250 millions B. Influenzæ (Pfeiffer), and 20 millions Pneumococcus, in 1 c.c. Injections were given on alternate days, commencing with 0·1 c.c., and the dose was doubled at each injection till 1 c.c. was given, and thereafter an injection of 1 c.c. of vaccine was given at weekly intervals.

In a series of 40 cases in which mixed vaccine was administered systematically throughout the course of the illness, only 1 death occurred, while in the remaining 69 parallel cases there were 6 deaths.

This series excludes cases where death occurred within 4 days of admission, and in whom there was little chance of vaccine treatment affecting the course of the disease.

CEREBRO-SPINAL FEVER.

Forty-two cases of meningococcal meningitis were treated during the year. Of these, 20 died and 22 recovered, giving a fatality rate of 47·6 per cent. Six patients died within 48 hours of admission and, excluding these, the fatality rate from this disease was 38·9 per cent.

Age Group	No. of Cases	Male	Female	Died	Recovered	Case Mortality per cent.	
						Total	Excluding Deaths in 48 hours
Under 1 year ..	7	3	4	5	2	71·4	66·7
1 to 5 years ..	7	4	3	4	3	57·1	57·1
5 ,, 10 ,, ..	2	1	1	1	1	50	—
10 ,, 20 ,, ..	8	7	1	2	6	25	14·3
20 + ,, ..	18	12	6	8	10	44·4	33·3
Total	42	27	15	20	22	47·6	38·9

Average day of disease on admission to hospital :—

Recoveries : 5th.
Deaths : 5th.

Average day of disease on which death occurred : 20th.

Average number of punctures performed (lumbar, cistern, or ventricular) : 4.5.

Average amount of serum administered to each case : 58 c.cs.

	Cases	Recoveries	Deaths	Fatality Rate
Polyvalent serum alone	3	2	1	33·3
Group I. serum alone	2	2	—	—
Combined polyvalent and Group I. serum	37	18	19	51·4

The number of cases admitted to hospital during 1933 shows an increase of 10 over the year 1932. This is the largest number admitted in any one year since the war. The fatality rate is the lowest on record, having been reduced to 38·9 per cent. (excluding cases dying within 48 hours of admission).

The type distribution of meningococci in the Manchester area, from the analysis made by the Ministry of Health of strains forwarded to them from Monsall Hospital and elsewhere, shows an almost equal division between Group I. and Group II. The scheme of treatment, therefore, aims at combating the infection by use of the appropriate serum in sufficient quantity at as early a period as possible. On admission to hospital a lumbar puncture is performed and equal quantities of Group I. serum and polyvalent serum are administered intrathecally, usually 10 c.cs. of the concentrated serum of each type.

Lumbar puncture is repeated daily for three, four, or five days, according to the condition of the patient, and a combination of Group I. and polyvalent serum administered intrathecally on each occasion. In those cases where insufficient cerebro-spinal fluid can be withdrawn by the lumbar route, cisternal and ventricular punctures, when possible, have been performed.

In many cases large doses of serum have also been given intravenously and intramuscularly, but the results in these cases are no better than in those in whom such treatment has been omitted.

The average day of disease on admission to hospital was a day earlier than in 1932. This may account to some extent for the reduction in the fatality rate, but the date of admission is still very late for an acute disease usually presenting such classical symptoms from the onset.

There is every indication, however, that the disease is responding better to treatment with the type of serum now in use, than formerly. This serum is manufactured from strains procured from current cases of cerebro-spinal fever, and not from old stock cultures. Supplies are readily obtainable, and though the number of cases treated so far is too small to warrant final conclusions, the results this year have been very gratifying.

OTHER INFECTIOUS DISEASES.

The following table gives the admissions of other infectious diseases during the year :—

	Cases.
Encephalitis lethargica	3
Rubella	10
Chicken-pox	138
Mumps	31
Pemphigus	3

BABIES' WARD (MALNUTRITION AND RICKETS).

The 8 cots of the Babies' Ward were fully occupied throughout the year. There were 17 admissions and 14 discharges.

TABLE SHOWING NUMBERS OF VARIOUS DISEASES TREATED.

Disease	Remaining in Hospital, Jan. 1st, 1933	Admitted	Discharges and Deaths	Remaining in Hospital, Dec. 31st, 1933
Scarlatina	199	1,573	1,611	161
Diphtheria	114	1,039	1,029	124
Enteric Fever	3	9	11	1
Erysipelas	18	261	260	19
Puerperal Fever & Pyreria	9	188	184	13
Measles	—	300	223	77
Other Diseases	25	813	812	26
Total	368	4,183	4,130	421

POST-MORTEM EXAMINATIONS.

During the year 19 post-mortem examinations were performed.

Disease Notified	Post-mortem Findings
Diphtheria	Acute streptococcal tonsillitis. Toxic myocarditis.
,, ...	Corrosive poisoning.
Laryngeal diphtheria.. ..	No involvement of the larynx. Cardiac failure.
Scarlet fever	Naso-pharyngeal ulceration. Pneumonia.
,, ,, ...	Purpura fulminans.
Puerperal fever	Peritonitis. Parametritis. Septicæmia.
,, ,, ...	Parametritis. Pelvic peritonitis. Abscess lung. Venous thrombosis.
,, ,, ...	Puerperal sepsis. Septic broncho-pneumonia.
,, ,, ...	Puerperal peritonitis. Septicæmia.
,, ,, ...	Acute endocarditis and pericarditis.
Puerperal pyrexia	Puerperal peritonitis.
Septic abortion	Abdominal tuberculosis.
Measles	Acute cardiac muscle failure and acute dilatation of the stomach.
,, ...	Broncho-pneumonia.
Encephalitis lethargica ..	? Post influenzal encephalitis.
,, ,, ..	Encephalitis.
Typhoid fever	Typhoid ulceration of the intestine with perforation and peritonitis.
Erysipelas	Erysipelas. Pulmonary tuberculosis.
Cerebro-spinal meningitis ..	Apical pneumonia.

AURAL REPORT.

The total number of cases of otorrhœa occurring in the hospital during 1933 was 327, these being distributed as follows :—

In scarlet fever	158
,, measles	41
,, diphtheria	77
,, miscellaneous diseases	51

During the year 228 cases were admitted for treatment to the special Aural Ward, 28 cases remaining at the end of the year.

Scarlet Fever.

Among the 1,595 cases discharged and 16 deaths during 1933, there were 177 cases of otorrhœa, a case incidence of 11·0 per cent.

Mastoid drainage was required in 25 cases, being an incidence of 1·6 per cent. of scarlet fever cases and 14·1 per cent. of cases of otorrhœa.

Of the total cases, 118 were unilateral and 40 bilateral; 25 of the cases were recurrences or exacerbations of chronic pre-scarlatinal otitis.

The average day of onset of otorrhœa was the 21st, and the average duration of otorrhœa was 36 days.

Antiscarlatinal serum was administered to 58 of the cases (36·7 per cent.) on admission.

Of the cases, 78 were females and 80 males.

Operations performed by the Aural Surgeons.

Mastoid drainage—	
Unilateral	23
Bilateral	2
Wilde's incision	2

Mastoid Operations.

Among the 25 cases the average day of disease on which mastoid drainage was required was the 42nd, and the average duration of otorrhœa after the operation was 44 days. Of the cases, 11 were females and 14 were males.

Diphtheria.

Among the 955 cases discharged and 74 deaths during 1933 there occurred 77 cases (7·5 per cent.) of otorrhœa.

Of these, 60 were unilateral, 17 were bilateral, and 12 were exacerbations or recurrences of pre-diphtheritic otitis.

Of the cases, 40 were males and 37 were females.

Measles.

Among the 199 cases discharged and 24 deaths during 1933, there occurred 41 cases (18·4 per cent.) of otorrhœa.

Of these, 31 were unilateral and 10 bilateral.

Of the cases 25 were males and 16 were females.

MISCELLANEOUS CASES OF OTORRHŒA.

Chicken-pox	8	(chronic pre-existent)
Erysipelas	31	
Meningitis	3	
Tonsillitis	1	
Rubella	3	
Mumps	3	
Pertussis	2	
Total	51	

REPORT OF CASES TREATED IN THE BED ISOLATION WARD.

During the year 1933, 465 cases were treated in the Bed Isolation Ward. The beds were fully in use, and during this period no cases of cross infection occurred.

The installation of better equipment for the sterilization of bed pans has greatly facilitated the work of the ward.

Ultra-violet ray lamps have been installed in a side ward attached to the Bed Isolation Ward and many patients have already received beneficial treatment. It is hoped next year to extend the use of these lamps to the treatment of erysipelas.

Nature of Cases	No. of Cases
Certified scarlet fever, no confirmatory symptoms	66
,, ,, ,, diagnosis confirmed	55
Scarlet fever, diagnosis doubtful, isolated 21 days	49
,, ,, and diphtheria	4
,, ,, ,, dermatitis	3
,, ,, ,, rhinorrhœa	38
,, ,, ,, K.L.B. rhinitis	6
,, ,, ,, erysipelas	3
,, ,, ,, whooping cough	6
,, ,, ,, vaginal discharge	5
,, ,, ,, impetigo	3
,, ,, ,, herpes	1
,, ,, ,, enteritis	3
,, ,, ,, otorrhœa	7
,, ,, ,, late chicken-pox and whooping cough	1
,, ,, ,, tubercular sinus	1
,, ,, ,, late chicken-pox	5
,, ,, ,, nephritis	3
,, ,, ,, surgical conditions	5
,, ,, contact other diseases	8
Certified diphtheria, diagnosis not confirmed	22
Diphtheria and whooping cough	5
,, ,, scarlet fever	1
,, ,, streptococcal tonsillitis	3

	No. of Cases
Diphtheria and doubtful scarlet fever	11
,, ,, rubella	1
,, ,, furunculosis	1
,, ,, mastoiditis	1
,, ,, enteritis	5
,, contact scarlet fever	7
,, and bronchitis	2
Certified measles, diagnosis not confirmed	9
Late measles and erysipelas	1
,, ,, ,, whooping cough	5
,, ,, ,, sinus of neck	1
,, ,, ,, polioencephalitis	1
,, ,, ,, suppurative adenitis	1
,, ,, ,, mastoiditis	1
,, ,, ,, erythema	3
,, ,, ,, dermatitis	1
,, ,, ,, pneumonia	2
,, ,, ,, scarlet fever	1
,, ,, mastoiditis, and erysipelas	1
,, ,, diphtheria, and impetigo	1
Late measles, pneumonia, and erysipelas	1
,, ,, scarlet fever, and K.L.B. rhinitis	1
,, ,, contact diphtheria	1
,, ,, and purpura	1
,, ,,	6
Whooping cough	47
Mumps	8
Rubella	7
Cerebro-spinal fever	1
Pemphigus neonatorum	3
Ophthalmia neonatorum	3
Pneumonia	5
Acute anterior poliomyelitis	1
Erysipelas	3
Diphtheria	4
Late chicken-pox	12
Retropharyngeal abscess	2
Total	465

LABORATORY REPORT.

Microscopical Examination of Cultures for B. Diphtheriæ.

Source of Swab	Positive	Number Examined
Throat	603	8,569
Nose	656	9,200
Ears	219	1,660
Eyes	—	4
Total	1478	19,433

A list is appended of the various specimens examined in the laboratory during the year :—

Fæces	150
Urine	137
Sputa	36
Cerebro-spinal fluid	115
Throat and nose—	
Anærobic	40
Ærobic	50
Cervical and vaginal—	
Anærobic	90
Ærobic	78
Blood cultures—	
Anærobic	35
Ærobic	120
Pus cultures—	
Anærobic	2
Ærobic	16
Blood counts	2
Agglutinations	30
Miscellaneous	10
Smears—	
Throat	40
Vaginal	20
Cervical	10
Blood	2

ILLNESS OF NURSING STAFF NECESSITATING WARD TREATMENT DURING 1933.

Condition	Number of Cases	Days Warded
Influenza	21	218
Tonsillitis	24	208
Diphtheria	3	145
Zonular cataract	1	78
Otitis media	1	74
Erysipelas	1	56
Operation for hernia	1	49
Bronchitis	3	74
Appendicectomy	1	39
Sciatica and pleurisy	1	35
Epidemic parotitis	2	35
Rheumatism	3	32
Conjunctivitis	1	26
Post operative abdominal adhesions	1	22
Gastritis	1	19
Sinusitis	2	18
Impetigo of face	1	15
Catarrhal jaundice	1	15
Streptococcal throat	1	14
Tonsillectomy	1	14
Coryza and vertigo	1	8
Pharyngitis	1	8
Multiple adenitis	1	4
	74	1,206

PUERPERAL SEPSIS.

The number of admissions was 188, as against 162 in the previous year, showing an increase of 26. One hundred and sixty-six were discharged cured and 18 deaths occurred, giving a case mortality of 9·8 per cent., as against 10·7 per cent. during the previous year. No deaths occurred within 48 hours of admission.

The average stay in hospital of those who recovered was 23·6 days, and of fatal cases, 21·1 days.

The average day of disease on admission to hospital was the 4th.

The cases may be classified as follows :—

Uterine sepsis following delivery at full time	110
„ „ „ abortion	57
Pyrexia due to causes other than uterine sepsis	17

The causes of death in the 18 fatal cases were :—

Puerperal sepsis	13
Lobar pneumonia	2
Broncho-pneumonia	1
Cerebral hæmorrhage	1
Rheumatic fever and endocarditis	1

The case mortality from uterine sepsis was, therefore, 7·8 per cent.

Of the 13 deaths from puerperal sepsis, 6 were due to general peritonitis and 7 to septicæmia. Each of these cases was infected with the hæmolytic streptococcus.

A general anæsthetic was administered to 42 patients, and 13 abdominal operations were performed.

Two cases were transferred to other hospitals on account of puerperal insanity.

Bacteriology.

The hæmolytic streptococcus was isolated from the blood in 10 patients, six of whom died.

The hæmolytic streptococcus was also isolated from the genital passages in 42·8 per cent. of all cases admitted, but the percentage of occurrence in true cases of puerperal sepsis was 65·6 per cent. Forty per cent. of septic abortions showed infection with this organism.

Patients with hæmolytic streptococcal infection of the uterus harboured the organisms in the nose or throat in 48·2 per cent. of cases. Other organisms isolated from the genital passage were staphylococci, non-hæmolytic streptococci, B. coli, and anærobic organisms. In seven cases where ærobic cultures from the uterus were sterile, anærobic cultures yielded a growth of organisms.

Investigation of Streptococcal Types.

An investigation is being carried out in collaboration with the Department of Preventive Medicine and Bacteriology of the University of Manchester of the types of streptococci from patients admitted to Monsall Hospital with puerperal sepsis.

Swabs from the nose, throat, uterus, and vagina of all the septic cases admitted have been forwarded to the above department, and the results of the investigation will be published in detail when the researches are completed.

Treatment.

Treatment was continued along similar lines to those outlined in last year's report, except for the fact that iodine has entirely replaced other antiseptics, such as brilliant green, flavine, glauramine.

An aqueous solution of iodine, 1/8000, is also used for such purposes as washing the hands, swabbing the vulva, and for douching.

Blood transfusion was performed on three cases and was followed by recovery each case.

ABERGELE SANATORIUM.

By J. E. Geddes, M.D., Medical Superintendent.

The available beds are allocated according to the age of the patient and the type of disease, as follows :—

Age	Type of Tubercle	Sex	Number of Beds
1–4	Bone and Joint Tuberculosis ..	10 Boys 10 Girls	20
4–15	Ditto. ditto. ..	37 Boys 37 Girls	74
1–4	Pulmonary Tuberculosis, including tracheo-bronchial glands, peripheral glands, and abdominal Tuberculosis	10 Boys 10 Girls	20
4–15	Ditto. ditto.	37 Boys 37 Girls	74
—	Admission Ward	—	12
Adults (Plas Uchaf)	Pulmonary Tuberculosis	42 Males 10 Females	52
		Total available beds ..	252
	Isolation Ward	—	10

At the commencement of the year there were 245 patients in the sanatorium :—

50 in the adult section, and

195 in the children's section.

At the end of the year there were 246 patients in the sanatorium :—

47 in the adult section, and

199 in the children's section.

TABLE I.

GENERAL CLASSIFICATION OF CASES TREATED IN 1933.

Classification on Admission	In Residence on 1st Jan., 1933		Admitted		Discharged		Died		In Residence on 1st Jan., 1934	
Pulmonary Group—	Adults	Children	Adults	Children	Adults	Children	Adults	Children	Adults	Children
T.B. Minus	19	50	29	43	35	40	—	1	13	52
T.B. Plus Group 1	4	2	7	4	8	2	—	—	3	4
T.B. Plus Group 2..	27	9	58	2	53	3	1	—	31	8
T.B. Plus Group 3	—	—	—	1	—	—	—	—	—	1
Non-Pulmonary Group—										
Bones and Joints	—	99	—	19	—	16	—	2	—	100
Abdominal	—	23	—	12	—	17	—	—	—	18
Other Organs	—	1	—	2	—	—	—	1	—	2
Peripheral Glands	—	11	—	9	—	8	—	—	—	12
Other Bones	—	—	—	1	—	—	—	—	—	1
Observation	—	—	—	1	—	—	—	—	—	1
Totals	50	195	94	94	96	86	1	4	47	199

TOTAL PATIENTS TREATED—

Adults' section of the sanatorium	144
Children's section of the sanatorium	289

TABLE 2.

ANALYSIS OF ADMISSION OF CASES OF BONE AND JOINT TUBERCULOSIS.

	Hip Joint	Knee Joint	Ankle Joint	Spine	Other Bones
Advanced	—	1	—	—	—
Intermediate	—	1	1	4	1
Early	5	1	—	5	—
Totals	5	3	1	9	1

This classification is based on the extent of bone destruction as shown by the initial radiological examination. It does not take into account the degree of activity of the disease.

TABLE 3.

RESULT OF TREATMENT IN DISCHARGED PULMONARY CASES.

Duration of Residence		Under 3 months				3–6 months				6–12 months				Over 12 months				Totals	
Classification on Admission	Condition on Discharge	Adults		Children		Adults		Children		Adults		Children		Adults		Children		Adults	Children
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
T.B. Minus	*Quiescent	4	..	..	..	9	..	..	1	6	..	4	3	..	1	9	12	20	29
	*Improved	4	1	1	..	4	..	..	..	2	..	1	4	..	..	2	2	11	10
	Stationary	1	1	..	1	2	..	..	..	..	..	..	..	..	..	..	..	4	1
	Worse	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Died	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
T.B. Plus Gr. 1	*Quiescent	1	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	2	1
	*Improved	..	..	..	..	1	1	..	..	3	..	..	1	..	..	..	..	5	1
	Stationary	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..
	Worse	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Died	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
T.B. Plus Gr. 2	*Quiescent	..	..	..	..	1	1	..	..	2	..	..	..	..	..	..	..	4	..
	*Improved	10	..	..	..	11	3	..	..	13	3	..	..	1	1	3	..	42	3
	Stationary	3	..	..	..	2	1	..	..	..	..	..	..	..	1	..	..	7	..
	Worse	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Died	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..
T.B. Plus Gr. 3	*Quiescent	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	*Improved	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Stationary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Worse	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Died	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
																		97	46

* For definition, see page 143.

TABLE 4.

RESULT OF TREATMENT IN DISCHARGED NON-PULMONARY CASES.

Duration of Residence		Under 3 months		3–6 months		6–12 months		Over 12 months		Total
Classification on Admission	Condition on Discharge	Children		Children		Children		Children		
		M.	F.	M.	F.	M.	F.	M.	F.	
Bones and Joints	Quiescent	..	..	..	..	2	1	7	2	12
	Improved	..	..	..	..	..	..	1	1	2
	Stationary	..	..	..	..	..	..	2	..	2
	Worse	..	..	..	..	..	..	..	..	..
	Died	..	..	1	..	..	1	..	..	2
Abdominal	Quiescent	..	..	..	..	8	..	5	3	16
	Improved	..	..	..	..	..	..	1	..	1
	Stationary	..	..	..	..	..	..	..	..	..
	Worse	..	..	..	..	..	..	..	..	..
	Died	..	..	..	..	..	..	..	..	..
Other Organs	Quiescent	..	..	..	..	..	..	..	..	..
	Improved	..	..	..	..	..	..	..	..	..
	Stationary	..	..	..	..	..	..	..	..	..
	Worse	..	..	..	..	..	..	..	..	..
	Died	..	1	..	..	..	..	..	..	1
Peripheral Glands	Quiescent	..	..	..	1	1	1	2	..	5
	Improved	..	1	..	1	..	..	..	1	3
	Stationary	..	..	..	..	..	..	..	..	..
	Worse	..	..	..	..	..	..	..	..	..
	Died	..	..	..	..	..	..	..	..	..
									TOTAL	44

The results of treatment in these 187 discharged cases were as follows :—

	Total cases Discharged	Quiescent	Improved	Stationary	Worse	Died
Adults (pulmonary)	97	26 (26·8%)	58 (59·8%)	12 (12·4%)	..	1 (1%)
Children (pulmonary)	46	30 (65·2%)	14 (30·4%)	1 (2·2%)	..	1 (2·2%)
Children (non-pulmonary)	44	33 (75%)	6 (13·6%)	2 (4·6%)	..	3 (6·8%)

The figures in brackets indicate the percentage of the total patients in each group discharged with their disease in the condition stated at the head of the column.

It is of interest to record that of the 46 children in the pulmonary group, 44, or 95·6% were either quiescent or improved on discharge, and of the 44 children in the non-pulmonary group, 39, or 88·6%, were either quiescent or improved on discharge.

The four children who died were in residence for 640, 189, 149, and 17 days respectively. The cause of death in each instance was as follows :—

(1) Pericarditis.

(2) Tuberculous broncho-pneumonia.

(3) Tuberculous broncho-pneumonia.

(4) Renal tuberculosis of the left kidney in a child who, previous to admission, had had the right kidney removed for tuberculous disease.

Two of the children classified on discharge as "stationary" were in residence for 705 and 396 days respectively. Both were cases of advanced spinal tuberculosis with sinus formation and were transferred to Booth Hall Infirmary.

The other child discharged as "stationary" was in residence for only 12 days and was discharged at the request of the parents.

ADULT SECTION OF THE SANATORIUM.

In residence on the 1st January, 1933	50
Admitted	94
Discharged	96
Died	1
In residence on the 1st January, 1934	47

General Treatment.

The essentials of sanatorium treatment have been referred to in previous reports, and are so well recognised that a further description of established principles or of their application in treatment is not required.

It is, however, desirable to state that full advantage has been taken of the admirable facilities for walks of every description over the extensive estate. New walks have been constructed and rustic seats erected in various positions on Tower Hill. The hills behind the sanatorium provide protection from wind and a variety and beauty of landscape which must be unequalled. The sanatorium is fortunate in its location and the walks for the patients on Tower Hill afford magnificient views of some of the finest mountain scenery in North Wales.

It is not difficult to gauge the value of walks under such conditions, and to many of the patients the daily walks are not a prescribed and monotonous exercise but a source of delight and satisfaction.

Handicraft Centre.

Occupational therapy is based on scientific knowledge and the development of centres for craft work must be reckoned as not the least important advance made in the work of sanatoria in recent years.

The need for more complete facilities for occupational work was met during the year by the opening of the handicraft centre and the appointment of a fully qualified instructor. The centre was opened in November and to meet the new conditions an entire reorganisation of the scheme for occupational therapy was necessary. The revised scheme provides for a suitable interspersion of rest, walks, and work in the grounds or in the handicraft centre.

In order to co-ordinate the various occupations the instructor assumes responsibility for all work whether performed in the workshop or in the grounds.

Handicraft Work.

The work undertaken is varied and within the resources of the individual patient. Classes are held in the handicraft centre for ambulant patients and the instructor visits the wards regularly to arrange suitable handicrafts for patients confined to bed.

Every effort has been made to exclude work of a monotonous nature and to introduce work which arouses interest. The construction of splints for use in the children's section of the sanatorium has elicited genuine interest, and a great deal of most valuable splint work has already been undertaken.

Attention is requested to the photograph on page 151 of this report, of a splint and carriage used for the treatment of disease of the hip joint. Three carriages have already been supplied and not only have they been constructed by patients but the form of the splint owes a great deal to their ingenuity.

Since the inauguration of the workshop the following major articles have been constructed :—

Rustic seats.
Rustic fences.
Rustic gates.
Rustic arches.
Cement casting boxes.
Caliper splints.
Duralumin headpieces for plaster shells.
Duralumin head and body pieces for plaster shells.

Abergele splint and carriage for the treatment of disease of the hip joint.
Wheel barrows for the farm and kitchen garden.
Pig troughs.
Scenery for patients' play.
Mahogany boxes for reports and for the light room.
Making and fixing stand for punch ball.
Boot repairing.
General leather work.

The diversity of the work undertaken will be appreciated by a reference to this list, and it may be claimed that any sense of aimlessness is eliminated by the introduction of work which claims the interest and, when completed, gives satisfaction to the worker.

SPECIAL TREATMENT.

Treatment by Artificial Pneumothorax.

Successful inductions	4
Unsuccessful inductions	2
Discontinued	—
Refills	128

Treatment by Phrenic Evulsion	1

The extent of collapse of the lung obtained by pneumothorax treatment is important and the optimum collapse varies in each patient. The mechanical effect of a pneumothorax on pleural adhesions, cavities, and on the mediastinum is most adequately determined by radioscopy. After each refill the patient is screened and particular attention is directed to the general state of the collapsed lung and to those factors already enumerated.

Gold Salts.

Sanocrysin or crisalbine has been used alone or in conjunction with artificial pneumothorax in 15 cases.

X-RAY WORK.

Table 5 shows the number of radiograms taken during the year. Reference has already been made to the use of radioscopy in controlling artificial pneumothorax. Over a hundred screen examinations were made in connection with pneumothorax treatment and are not recorded in this table.

TABLE 5.

Radiograms taken during the Year.

Spines	4
Hips	3
Lungs	171
Lungs (oblique)	1
Lipiodals	2
Total	181

LABORATORY WORK.

A list is appended of the various specimens examined and other work done in the laboratory during the year :—

Sputum—Ordinary	707
Sputum—Special (antiformin)	19
Urine—Ordinary	9
Urine—Special	16
Throat swabs, films, cultures	4
Pus	4
Pleural fluid	7
Gastric analysis	1
Faeces	2
Blood counts	4
Red blood cell sedimentation graphs	400
Total examinations	1,173

STATISTICS RELATING TO PATIENTS DISCHARGED DURING THE YEAR.

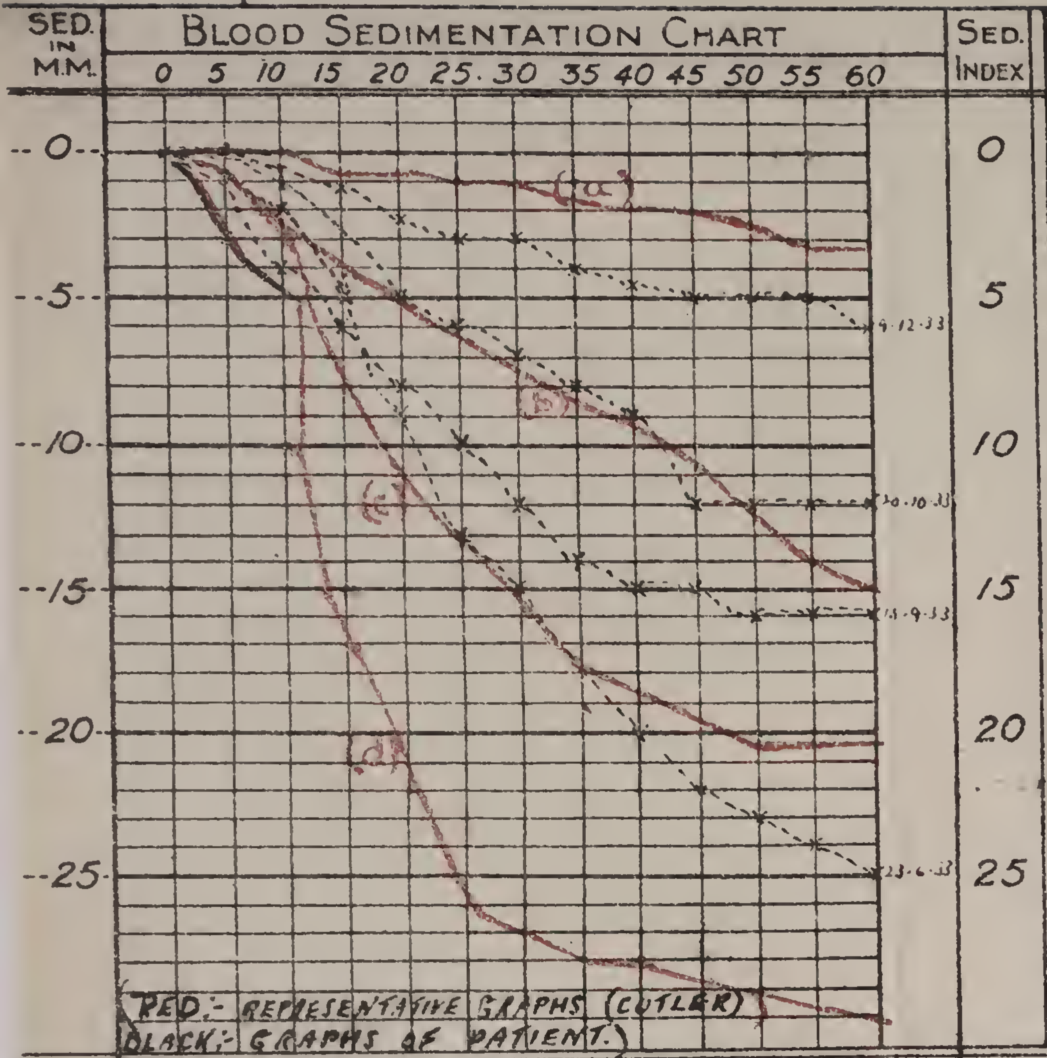
The general condition of the patient, pulse rate, temperature records, exercise tolerance, and the evidence obtained by clinical examination, are the fundamental factors controlling an estimation of the activity of the pulmonary disease.

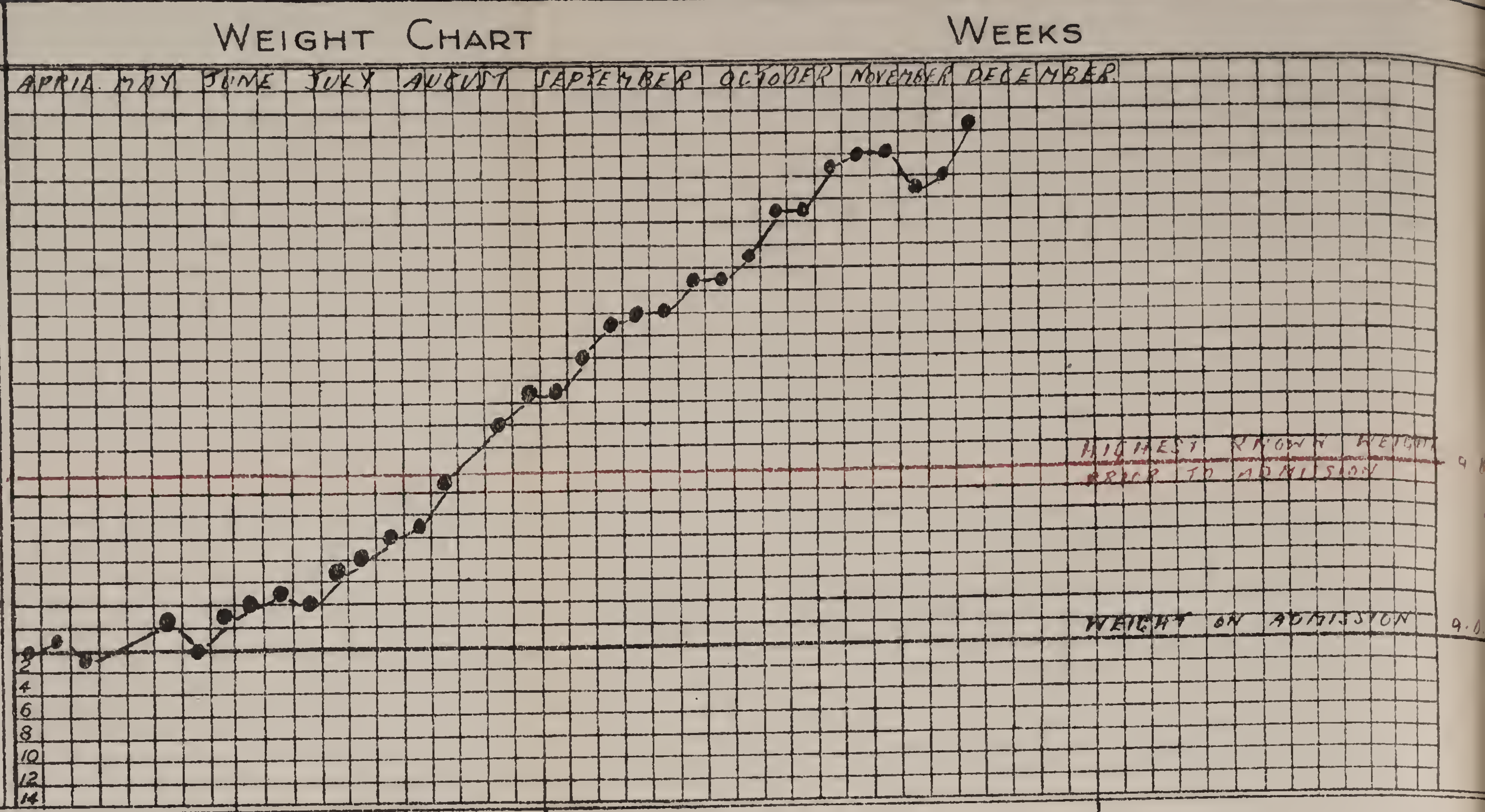
The absorption of tuberculous exudates shown by serial radiology, and the red cell sedimentation rate are additional and valuable criteria used regularly to corroborate the information obtained by clinical examination.

NAME

DATE OF ADMISSION - 11 · 4 · 1933 DISCHARGED = 12 · 12 · 193

TUBERCULIN TESTS





MONTH 1933.	RADIOGRAM	SPUTUM EXAMINATION BACTERIOLOGY	QUANTITY	SPLINT	RE-EXAMINATION	
					ADMISSION	
APRIL	PULMONARY.	T. B. PLUS.	ʒi		15 · 5 · 1933	
MAY		T. B. PLUS.	ʒi		26 · 6 · 1933	
JUNE		T. B. PLUS.	ʒss		4 · 8 · 1933	
AUGT.		T. B. PLUS.	ʒss		18 · 9 · 1933	
SEPT.	PULMONARY.	T. B. PLUS.	ʒss		23 · 10 · 1933	
OCTR.		T. B. MINUS	ʒss.		4 · 12 · 1933.	
DECR.		T. B. MINUS.	ʒss.			

Attention is drawn to the following facts:—

(1) The gradual fall in the sedimentation rate.

(2) The gradual weekly increase in weight to a level of 15 lbs. above the highest known weight.

(3) Positive sputum on admission and minus on discharge.

Before discharge it is desired that the general condition should be satisfactory, that the temperature and pulse records should be within normal limits, and that the clinical signs and the results of other ancillary examinations denote inactive disease. In the case of patients discharged as *quiescent* or *improved* these postulates have been attained.

Ancillary Statistics.

A composite chart, constructed for each patient, is used to record the following :—

(1) Sedimentation rate of red blood cells recorded at intervals of six weeks and shown graphically. The graphs are interpreted according to Cutler as follows :—

- (*a*) Horizontal line denoting absolute quiescence.
- (*b*) Diagonal line denoting quiescent disease.
- (*c*) Diagonal curve denoting disease of moderate activity.
- (*d*) Vertical curve denoting disease of marked activity.

(To facilitate comparison these representative graphs are shown together with those of the patient whose chart is reproduced.)

(2) Weight records recorded weekly and shown graphically. A black line on the chart shows the admission weight and a red line the highest known weight of the patient. This weight is taken as the normal weight in good health. It does not necessarily follow that this interpretation is exact, but in the majority of cases the postulate holds good and is sufficiently accurate for the purpose of these records. It is of interest to note that once the assessed optimum weight (or standard weight) has been reached, the weight graph tends to flatten.

(3) Results of sputum examinations carried out at six weekly intervals. The objectives before the discharge of the patient are :—

- (*a*) Horizontal sedimentation graph.
- (*b*) Standard weight.
- (*c*) Minus sputum.

A typical chart is shown of a patient with moderately advanced pulmonary tuberculosis who made good progress and was discharged with the pulmonary disease in a state of quiescence.

A summary of the information contained in these charts in respect of all patients discharged during the year is shown on Table 6. The reproduction of these records shows the results of treatment in a form which is at once readily followed, and augments the statistical information given in Table 3.

TABLE 6.

Total Discharges	Condition on Discharge	Number in each Group	TYPE OF SEDIMENTATION GRAPH ON DISCHARGE (Interpreted according to Cutler)				Weight on Discharge		Sputum on Discharge	
							Standard	Below Standard	Plus	Minus
			(a)	*(b)*	*(c)*	*(d)*				
97	Quiescent or Improved .	84	67 (80%)	12 (14%)	5 (6%)	—	63 (75%)	21 (25%)	12 (14·3%)	72 (85·7%)
	Stationary . .	12	1 (8·3%)	2 (16·7%)	5 (41·7%)	4 (33·3%)	—	12 (100%)	9 (75%)	3 (25%)
	Died	1	—	—	—	—	—	—	—	—

The above table shows that of 84 patients (or 86·6% of the total discharges) discharged as quiescent or improved, 79 or 94% had a red cell sedimentation rate (Graph *(a)* and *(b)*), indicating quiescent pulmonary disease ; 63 or 75% had attained or were above standard weight ; and in 72 or 85% the sputum was negative for tubercle bacilli.

It should be noted that in five of the patients discharged as quiescent or improved, and in three of the patients discharged as stationary, the sedimentation rate did not conform with the clinical assessment.

The weight records of patients discharged during the year is shown in Table 7.

TABLE 7.

Total Discharges	Gain in Weight				Stationary	Loss in Weight	
	1—6lbs.	7—13lbs.	14—19lbs.	20lbs. & above		1—6lbs.	7—14lbs.
97	23 (23·8%)	43 (44·2%)	12 (12·4%)	10 (10·3%)	5 (5·2%)	3 (3·1%)	1 (1%)

The above table shows that of 97 patients discharged during the year, 88 or 91 per cent. gained in weight, and 9 or 9 per cent. were either stationary or lost weight.

GENERAL NOTES.

Handicraft Centre.

The reconstruction of the old laundry building for use as a workshop for male and female patients was completed during the year. The building is divided to provide a large workshop for the male patients and a small workshop for the female patients. The equipment is simple but is sufficiently comprehensive to enable carpentry, simple metal work, boot repairing, and leather work to be carried out in detail.

Sputum Destructor House.

The reconstruction of the building formerly used to house the disinfector has provided suitable accommodation for a steriliser for sputum bottles and an autoclave for the destruction of sputum.

Recreation Room.

The need for the provision of an adequate recreation room for male patients has received the attention of the House Sub-Committee during the year. The present recreation room is totally inadequate both in respect of size and situation. It is situated between the wards and the staff duty rooms and is in fact a corridor used as a recreation room.

The House Sub-Committee had intended to proceed with the erection of a recreation room during the current year, but owing to the financial stringency the initial resolution was rescinded. It was decided, however, to include this work in the extraordinary expenditure for 1934-35.

Religious Services.

The Rev. H. R. Hughes, M.A., Vicar of Abergele, and ministers from the Nonconformist churches have held regular services throughout the year. These services have been greatly appreciated by the staff and patients. I desire to record our appreciation of this work.

CHILDREN'S SECTION OF THE SANATORIUM.

General Classification of Cases treated in 1933.

In residence on the 1st January, 1933	195
Admitted	94
Discharged	86
Died	4
In residence on the 1st January, 1934	199

General Treatment.

Local treatment of the particular organ diseased without concurrent sanatorium treatment is most likely to be productive of bad results. The influence of sun and air is an important factor in the regimen of general treatment. The characteristics of the climate, therefore, assume a position of considerable importance.

The sunshine hours, the rainfall and the temperature constitute the more important features from the physiological aspect. The sunshine hours, rainfall, and temperature for 1933 for North Wales and Manchester are appended for comparison.

It is of interest to compare the variations in these records during a most exceptional spring and summer.

1933	Sunshine Hours		Rainfall in Inches		Mean Temperature	
	North Wales	Manchester	North Wales	Manchester	North Wales	Manchester
January	78·0	13·8	2·26	2·16	38·1	37·5
February	89·9	52·4	1·65	3·20	41·7	40·1
March	159·7	104·6	1·55	2·92	46·1	46·2
April	160·8	93·1	0·60	1·18	48·1	48·6
May	158·7	114·4	1·06	1·29	53·1	55·3
June	205·6	174·6	1·14	3·02	59·5	61·4
July	205·2	160·4	0·67	2·44	62·8	65·5
August	178·7	154·4	1·63	1·36	63·2	64·3
September	186·0	159·9	1·00	1·29	59·5	61·7
October	79·1	48·9	4·35	4·53	51·9	51·4
November	59·6	16·0	1·33	1·33	43·7	44·4
December	50·7	9·8	0·86	0·43	36·7	37·5
Totals	1612·0	1102·3	18·10	25·15	Average 50·3	Average 51·2

(We are indebted to the Medical Officer of Health, Rhyl, for the North Wales records.)

Heliotherapy, without a careful technique, is harmful and attention was directed in the report for 1932 to the technique devised to regulate the use of sunshine in treatment.

DIETARY.

The dietetic requirements of the healthy child have to meet the normal demands for maintenance and growth as compared with the triple demand in the tuberculous child for maintenance, growth, and for repair of tissue disintegrated by the tubercle bacillus. In addition to observing in the construction of the dietary an efficient balance between proteins, fats, and carbohydrates, attention was given to the following points :—

(*a*) *Proteins.*

Proteins of a high biological value are maintained at an approximate amount of 63 grammes per child per day and yield nine per cent. of the total caloric value. These proteins are present in cheese, eggs, fresh meat, and milk, and the introduction of these foodstuffs in the dietary is given due prominence.

(*b*) *Fats and Carbohydrates.*

Several investigators have supported the contention that fat has a beneficient effect in stabilising the resistance of the individual to tuberculosis. It is not unlikely that the value of fat is to some extent dependent on the contained vitamins, and as a point of general observation it is noted that the child who eschews fat not infrequently manifests an impaired resistance to this disease.

Carbohydrates have their place in the dietary as effective sources of energy but they are maintained at a minimum consistent with securing the proper metabolism of the fat, and satisfying the energy requirements of the child.

The average quantity of fat provided daily is 100 grammes which yield 35 per cent. of the total caloric value of the diet, and the daily quantity of carbohydrates is 270 grammes which yield 50 per cent. of the total calories.

(*c*) *Vegetables.*

Cooked vegetables at dinner or alternatively fresh vegetables at tea are provided daily. The allowance of fresh fruit is generous. In the case of children below the age of five, fruit juice is given daily but in the case of the older children fruit is given three times per week.

A regular supply of fresh vegetables and fruit is obtained from the kitchen garden. The rotation and type of crop is controlled to provide these vegetables not only during the summer but in so far as is practicable during the winter. The experience obtained from three years' work in the extended kitchen garden has enabled the head gardener partially to meet the requirements of the hospital in this direction, but to attain properly the object in view an increase in the acreage of the garden and an extension of the glass houses may become essential.

(*d*) *Minerals.*

Minerals are essential at any time for maintaining intact the fabric of the body. The need for mineral matter is apparent in a disease where decalcification of bony tissue is a prominent feature. Foods which are of value in supplying mineral matter are provided as follows :—

(1) Milk—1½ pints per child per day.

(2) Oatmeal—Daily.

(3) Cheese—Twice a week.

(4) Eggs—Three times a week.

(5) Fresh salads, vegetables, and fresh fruit as already described.

(6) Liver—Once per week.

(7) Meat—Daily.

The test of the value of any dietary is in its clinical results. Its effect can be gauged from the child's appearance, growth, and gain in weight, and also by the degree of physical and mental activity displayed.

The following table shows the weight records of the children discharged during the year and attention is also directed to the section of the report recording the school and guide work.

TABLE 8.

Total Discharges	Gain in Weight				Stationary	Loss in Weight	
	1—6lbs.	7—13lbs.	14—19lbs.	20lbs. & above		1—6lbs.	7—14lbs.
86	6 (7%)	36 (41·8%)	21 (24·4%)	20 (23·3%)	2 (2·3%)	1 (1·2%)	—

The figures in brackets indicate the percentage of the total children discharged with a weight record, as stated at the head of each column.

LOCAL TREATMENT—NON-PULMONARY TUBERCULOSIS.

BONES AND JOINTS.

Table 9 shows the result of treatment in discharged bone and joint cases.

LOCATION OF DISEASE	Number of Discharges		Sound Ankylosis	Ankylosis not complete but position good	Free Mobility of Joint	Small Spinal Gibbosity with efficient Compensatory Spinal Curves	Large Gibbosity with efficient Compensatory Spinal Curves	Ambulation			REMARKS
								* Satisfactory	Poor	Not Tested	
Hip Joint	5	1	—	1	—	—	—	—	—	1	Transferred to North Wales Sanatorium to complete treatment.
		1	—	—	1	—	—	1	—	—	Discharged as quiescent.
		1	—	—	1	—	—	1	—	—	Discharged as quiescent.
		1	1	—	—	—	—	1	—	—	Discharged as quiescent.
		1	—	—	1	—	—	1	—	—	Discharged as quiescent.
Spine	6	1	1	—	—	1	—	1	—	—	Discharged as quiescent.
		1	1	—	—	—	1	1	—	—	Discharged as quiescent.
		1	1	—	—	1	—	1	—	—	Discharged as quiescent.
		1	1	—	—	—	1	1	—	—	Discharged as quiescent.
		1	—	—	—	—	—	—	—	—	Transferred to Booth Hall Hospital—Multiple Sinus formation.
		1	—	—	—	—	—	—	—	—	Transferred to Booth Hall Hospital—Multiple Sinus formation.
Knee Joint	3	1	—	—	1	—	—	1	—	—	Discharged as quiescent.
		1	—	—	1	—	—	1	—	—	Discharged as quiescent.
		1	1	—	—	—	—	1	—	—	Discharged as quiescent.
Ribs and Sternum	1		—	—	—	—	—	1	—	—	Discharged as quiescent.
Multiple Bony Foci	1		—	—	—	—	—	1	—	—	Discharged as quiescent.

* " Satisfactory " indicates that the ability to walk is such as to meet effectively all the ordinary requirements of daily life.

The treatment of bone and joint tuberculosis has as its main objective the provision of efficient rest for the diseased joint or bone. In the report for 1932 attention was directed to the need for splintage which varies according to the site and stage of the disease.

The provision for splint work was augmented during the year by the introduction of splint work as part of the curriculum in the handicraft centre for adult patients.

Local Treatment of Hip Joint Disease.

The objective in the treatment of disease of the hip joint is either sound and complete ankylosis (a fixed joint) in good position, or free mobility of the joint. The attainment of either of these results demands unremitting attention and immobilisation of the hip joint, a notoriously difficult joint to immobilise, in the position of choice.

During the active stage of the disease when decalcification of the bones is pronounced the joint must be rested, but rest without the most effective traction on the joint is useless.

Absorption of a portion of the femoral head even with complete traction is difficult to eliminate, but the shortening from this absorption is not so serious a matter as the gross destruction of the femoral head, and erosion and extension of the acetabulum with secondary pelvic deformity which almost invariably follows immobilisation without traction.

The percentage of cases in which complete mobility is obtained is small, but whether the aim is mobility or ankylosis the need for traction remains.

Plaster of paris splintage in the later stages of treatment is invaluable, but in the acute stage when effective traction is required and meticulous observation of the pelvis is urgent the use of such splintage is open to considerable objection.

A plaster of paris spica in young children requires frequent removal and reapplication on account of the difficulty associated with the nursing of these children. Extension by weight and pulley provides only a very partial immobilisation and the degree of traction in the hip joint is variable and indeed largely ineffectual.

Special Frame and Carriage.

A frame for the treatment of hip joint disease during the acute stage has been under consideration for some time, but the final form of the splint was introduced during the year.

The splint was constructed to meet the following requirements :—

(1) The application of effective traction to the hip joint with the body acting as the counterweight. It was found that the fixing of the body to the frame by means of a jacket or harness reduced the effectiveness of the counter extension and to eliminate this a cage was constructed which ensured satisfactory immobilisation of the body without reducing the efficiency of the body traction. (The cage is shown in the photograph and is marked "A.")

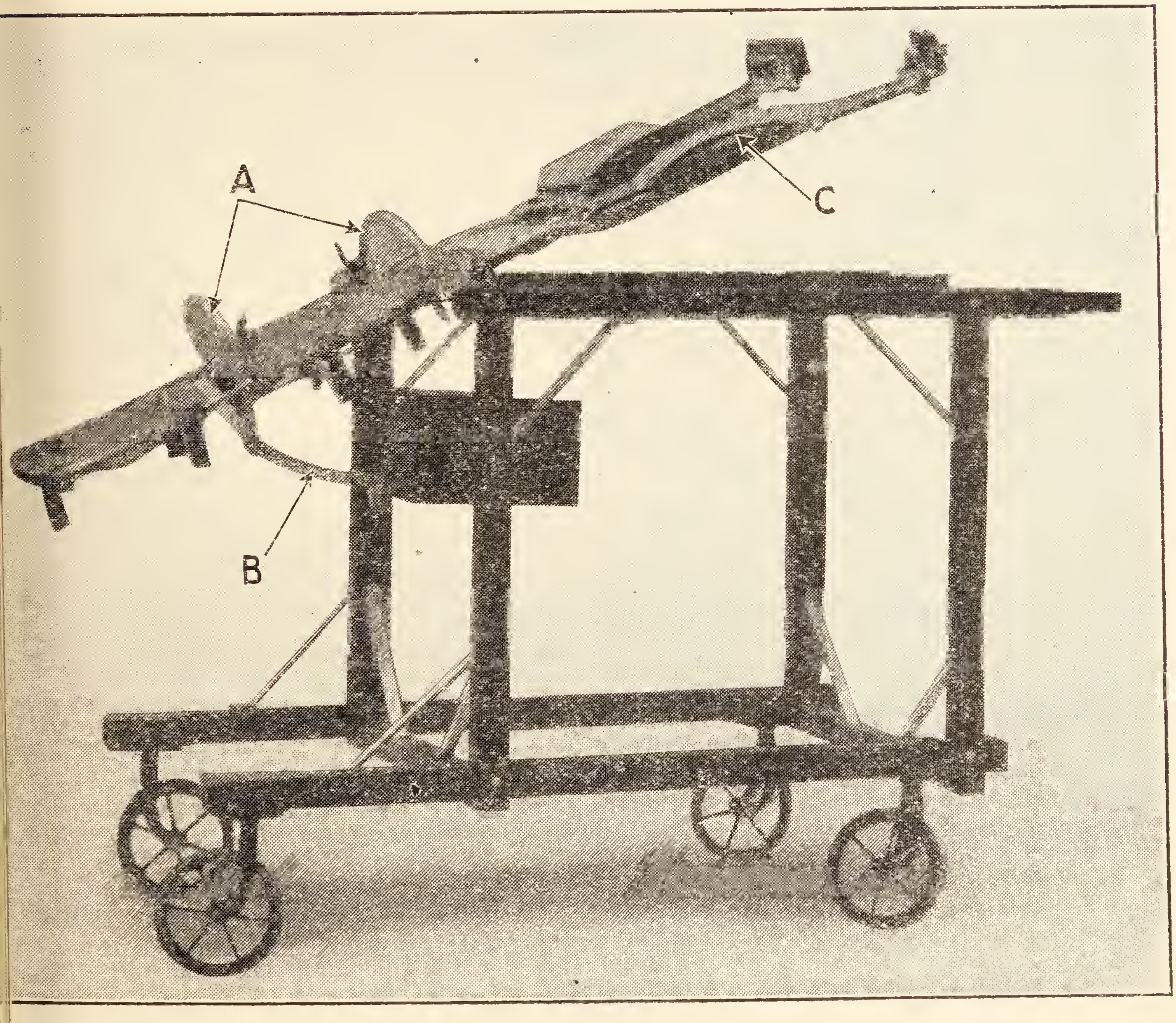
(2) Exact control of the degree of traction on the hip joint. This was obtained by the introduction of a tilting device. The child is placed on the splint in the first instance in a horizontal position and the frame is gradually tilted to the desired angle. The degree of extension on the hip joint is thus under exact control and in cases demanding energetic traction the frame can readily be tilted to an extreme angle. (The tilting device is shown in the photograph and is marked "B.")

(3) Control of the degree of abduction of the joint. This was obtained by the introduction of movable leg pieces.

(4) Slight flexion of the knee joint. This was obtained by the use of a movable knee bracket. The bracket slides on the leg pieces and is readily adjusted to the required position. The application of traction to the hip necessitates the use of leg extension apparatus, and if carried out over a long period with the leg straight the production of a varying degree of genu recurvatum results. (The knee bracket is shown in the photograph and is marked "C.")

A buttock flap to which a nursing tray can be fitted enables the necessary nursing attention to be given without disturbing the child or altering the position. The frame is fitted to a carriage to facilitate transport.

Photograph of splint for the treatment of disease of the hip joint. The splint and carriage was constructed by male patients in the handicraft centre and the leather work was made by female patients.



Spinal Tuberculosis.

No alteration has been made in the type of splints used for the treatment of spinal tuberculosis. Posterior plaster beds have been used with success during the acute stage and plaster of paris and celluloid jackets in the ambulatory stages.

Table 10 gives the number of splints constructed during the year.

TABLE 10.

Double plaster spica	8
Single plaster spica	32
Extension and knee plasters	37
Elbow plasters	6
Plaster beds	11
Plaster jackets	37
Celluloid jackets	7
Celluloid spicas	5
Special Abergele frame	3
Total	146

X-Ray Work.

The process of healing and bone repair at all stages is observed by serial radiograms and ambulatory treatment is not commenced until all symptoms have disappeared and until the radiogram shows that new bone formation has taken place to a satisfactory degree.

Table 11 shows the number of radiograms taken during the year.

TABLE 11.

Spine	160
Hip joint and pelvis	124
Knee joint	93
Other bones and joints	31
Abdominal.	
Barium enema	2
Barium meal	1
Pyelograms	2
Total	413

Operations.

The number of operations performed during the year was as follows :—

Scraping of sinuses	5
Expression of abscesses	2
Excision of glands of neck	2
Excision of knee	1
Osteotomy of femur	2
Osteotomy for talipes	1
Lengthening of tendon	1
Phrenic evulsion	3
Laparotomy	1
Total	18

I desire to place on record the very great advantage derived from the monthly visits of Professor E. D. Telford, M.SC., M.A., F.R.C.S., M.R.C.S., L.R.C.P., Consulting Surgeon to the Sanatorium.

COMPLICATIONS.

Sinuses.

The successful treatment of secondarily infected sinuses constitutes one of the most difficult of problems. Several pastes have been used during the year without any result, but in three cases of sinus formation complicating hip joint tuberculosis, ten per cent. Gomenol in oil has been used with good results.

The Gomenol is injected into the sinuses on alternate days and retained in the sinuses by blocking the orifices with collodion.

Abscesses.

The regular aspiration of abscesses affords the usual and a most efficient method of removal of tuberculous pus, and is carried out as a routine measure. In those cases, however, where the pus contains large flakes of fibrin or when the abscess contents have become inspissated, aspiration is no longer practicable. The open incision and expression of the abscess contents has been discountenanced on account of the probability of secondary infection.

It is of interest to record that during the year several abscesses have been opened with the results shown below.

Site of Abscess	When Opened	Result
Pubic	6th November, 1933 ..	Wound firmly healed.
Psoas	11th September, 1933 ..	,, ,,
Anterior Crural	19th August, 1933	,, ,,
Anterior Crural	22nd March, 1933	,, ,,

MASSAGE DEPARTMENT.

The prolonged immobilisation required in the treatment of bone and joint tuberculosis demands meticulous attention to the condition of healthy muscles and joints. Resultant laxity of ligaments and disuse atrophy of muscles are unavoidable in the absence of proper attention during the period of immobilisation in bed.

The appointment of a masseuse sister during the year has permitted the organisation of a system of remedial exercises, massage, and electro-medical treatment for all children whether ambulatory or confined to bed.

General Classes.—A small gymnasium has been equipped and classes are held daily in the gymnasium for ambulant children and in the case of children confined to bed classes are held in the ward.

The general class exercises are confined to ambulant children and children who are approaching the ambulatory stage but are still confined to bed.

The class exercises give attention to the needs of the body as a whole in so far as this is practicable where the necessity for fixation of the joint by splintage persists. The common physical denominator in these children is loss of general muscular tone and the system of exercises in vogue is constructed to remedy this defect.

Individual exercises.—Exercises during the acute stage may be definitely harmful and the relative claims of rest and activity must be balanced. Individual attention is, however, given in cases where the joint disease is active and strict immobilisation is essential. Massage, faradism, and minor muscle exercises are regularly used to attain the object in view.

The end results in the treatment of bone and joint tuberculosis must be judged by the ability of the child to walk satisfactorily.

The condition of the diseased joint is not the sole factor. The stability of healthy joints and the tone of the general musculature if good are the ancillary factors which will furnish a satisfactory conclusion to treatment.

The work of this department has been satisfactory and is capable of further extension.

PULMONARY TUBERCULOSIS.

The sanatorium regime with all that it implies constitutes the basis of all treatment.

Treatment by artificial pneumothorax.

Successful inductions	2
Unsuccessful inductions	2
Refills	33
Treatment by phrenic evulsion	2

Sanocrysin or Crisalbine was administered in three cases.

The number of pulmonary radiograms taken during the year was as follows :—

Pulmonary (antero-posterior and oblique).. ..	199
Lipiodal	7
Total	206

Thoracic Tuberculosis in Childhood.

The development of "adult" pulmonary tuberculosis from infections acquired in childhood is, in certain instances, indisputable, but the percentage of cases in which the puerile infection is the determining factor is difficult to ascertain.

The importance of co-ordination of clinical, tuberculin, and radiological findings in T.B. Minus cases in children is thus being kept in view, and it is proposed at a later date to submit a special report on this section of the work.

The difficulty inherent in this problem is the assessment of what constitutes thoracic tuberculosis in childhood. The symptomatology is essentially general and the physical signs are, in the majority of cases, equivocal.

The object of this section of the report is to give prominence to the radiological findings and tuberculin reactivity in 31 children with thoracic tuberculosis admitted during the year. In considering this aspect of the problem attention should not be divorced from the knowledge that symptoms of general ill-health were in each case a prominent feature.

Total Cases	Tracheo-bronchial Glands (Calcified)	Primary Pulmonary Nodule	Infiltration of Lung Parenchyma	Epituber-culosis
31	16	9	5	1

Table 12 shows the relationship of the grade of tuberculin reaction to the radiological findings.

The technique of the test consists of the intracutaneous injection of 0·1cc. of old tuberculin in the concentration of 1—10,000. The reaction is observed at the end of 48 hours, and graded according to the diameter of the infiltration as follows :

Grade 1—Diameter of papule 15—20 mm.
Grade 2—Diameter of papule 12—15 mm.
Grade 3—Diameter of papule 10—12 mm.
Grade 4—Diameter of papule below 10 mm.

TABLE 12.

Grade of Tuberculin Reaction	Tracheo-bronchial Glands (Calcified)	Primary Pulmonary Nodule	Infiltration of Lung Parenchyma	Epituber-culosis
1	2	—	—	1
2	2	6	1	—
3	4	2	2	—
4	8	1	2	—
Totals	16	9	5	1

This table shows that there is no consistent relation between the degree of the tuberculin reaction and the extent of the thoracic disease as shown radiologically.

Dental Treatment.

The dental surgeon (Mr. A. Smith, L.D.S.) visits the sanatorium once a fortnight, and in addition to the work detailed below he instructs the children at regular intervals on the proper care of the teeth.

The following table shows the condition of the teeth of children admitted during the year :—

Age Group	All Teeth in Good Condition	One to Four Defective Teeth	Over Four Defective Teeth
1—6 ..	5	—	1
6—15 ..	23	49	16
Totals ..	28	49	17

Summary of Dental Work performed during the Year.

Visits	28
Extractions	451
Fillings	112
Scalings	2
Gum treatment	1

Infectious Illnesses.

During the year the following cases of Infectious illness occurred :—

	Children	Staff
Diphtheria	1	1
Scarlet fever	8	—

Laboratory Work.

A list is appended of the various specimens examined in the laboratory during the year :—

	Children	Staff
Sputum—Ordinary	716	2
Sputum—Special (antiformin)	7	—
Urine—Ordinary	58	113
Urine—Special	84	—
Throat swabs, films, cultures	17	1
Nasal swab, film, culture	—	2
Vaginal swab, film, culture	1	—
Ear swab, film, culture	2	—
Pus	4	—
Gastric analysis	—	1
Gastric lavage	10	—
Faeces	2	—
Blood counts	15	—
Blood calcium estimations	15	—
Blood sedimentation graphs	840	—
Total examinations	1,771	119

Specimens examined at the Public Health Laboratory, Manchester, were as follows :—

Blood for urea content	2
Faeces	4
Sputum for presence of lamblia intestinalis	2

RESEARCH WORK.

Investigation completed by Dr. Murray.

Estimation of Plasma Phosphatase.

Phosphatase—an enzyme found in various tissues and in the blood plasma and leucocytes, has been studied increasingly during the past few years.

Kay, Robinson, Hunter, and other workers have demonstrated its importance in the metabolism of phosphorous and calcium and in the process of ossification. It has been shown that the enzyme is present in areas of growing bone where by virtue of its action of hydrolyzing the phosphoric esters of the blood, it produces the necessary concentration of phosphations to allow the formation of an excess of tertiary calcium phosphate thereby bringing about the necessary deposition of this salt in the cells.

Phosphatase has been specially studied in the blood plasma and a considerable increase in the phosphatase content or more correctly, the phosphatase activity of the plasma has been found to accompany diseases which show generalised destruction of bone or general disturbance of bone metabolism such as osteitis fibrosa, osteitis deformans, or rickets.

H. D. Kay reports findings showing increase of 400 to 1000 per cent. over normal in such cases. The estimation of plasma phosphatase has, therefore, been usefully employed as a diagnostic test in such diseases and it has also been found possible to use the test as an indication of prognosis and for control of treatment.

The need for a test of this nature which could be used to corroborate clinical and radiological findings in the study of tuberculous lesions of bones and joints has been felt for some time. During the past three years the routine use of red-cell sedimentation estimation in bone and joint tuberculosis at Abergele has shown that it cannot be relied upon to give a reliable indication of the finer changes taking place in a lesion after the acute stage has passed.

Mr. Telford suggested that it might prove of value in this connection to investigate any changes in the plasma phosphatase which might occur during the course of a tuberculous lesion of bone.

The estimations of the plasma phosphatase carried out by H. D. Kay at Toronto University, using a method elaborated by himself, had established a normal average for adults of 6·06 units but as no figures were available for normal children it was necessary to carry out estimations among children free from disease of bone. For this purpose 33 estimations were carried out in children under treatment for pulmonary or peripheral glandular tuberculosis. The resulting average was 8·9 units. A fairly definite difference was established as between the younger children and those of eight years and over and average results were taken as 10·1 units for children seven years and under, and 7·6 units for those over seven years.

Estimations were then carried out in 57 children suffering from tuberculosis of bones or joints.

The resulting averages were 12·0 units for those under seven years and 9·8 units for those over seven years showing, therefore, an average small increase over normal figures.

This increase was studied carefully in relation to the clinical and radiological assessment of the lesion at the time of estimation with regard to activity, state of affected bone (decalcifying or recalcifying or sclerosed) extent of lesion and duration of lesion. It was found that the highest phosphatase was found during the period of activity, and that the figures tended to return towards normal as activity subsided and recalcification proceeded.

Many exceptions were, however, found and it was not possible in the series under review to show a clearly marked difference between the results in clinically quiescent lesions and those not considered quiescent.

The result of the investigation was, therefore, disappointing in this respect, but proved interesting in other directions as it apparently proved various hypotheses made by other observers regarding the role of phosphatase and the nature of the increased activity found in diseases of bone.

More than one observer has stated that to understand the formation, maintenance, and pathology of bone, emphasis should be laid as much on the metabolism of phosphoric acid as on that of calcium and the results obtained during this investigation seem to show that this is true and that the subject will repay further study.

SCHOOL.

General Statistics.

1	Number on school register on 1st January, 1933	145
2	Admissions to school during the year	106
3	Discharges from school during the year.. ..	82
4	Number on school register on 31st December, 1933	169

Staff.

The teaching staff consists of one head teacher and seven assistant teachers.

The school activities are grouped into five general grades which are arranged to reconcile the activities of school work with the physical capacity of each child.

The school is visited weekly by a member of the medical staff who determines to which grade each child should be allocated.

The school work is conducted in the wards for children confined to bed, and in the case of ambulant children classes are held in the school rooms. The average number of children who received instruction during the year was, in the former case, 110, and in the latter case 54.

Curriculum.

Seniors.

The curriculum has been planned to meet the standard required for elementary school work under the Manchester Education Committee. A special feature of the organisation is that children over the age of eleven are taught mainly by the assignment method. This involves the construction of a weekly scheme of work adapted to the mental standard of each child. These schemes are inclusive of all subjects which are legitimately related to the elementary school curriculum.

In certain instances children who show particular aptitude in the school work and manifest interest in any particular subject such as clerical work, draughtmanship, etc., are encouraged to pursue these subjects.

Juniors.

The work with the children below the age of eleven is almost entirely individual.

Apparatus ordinarily used to promote the advancement of the ambulant child in reading and arithmetic has proved to be unsatisfactory for bed children.

During the year Miss Evans (the headmistress) has devised special apparatus for the training of children confined to bed and particularly for those children immobilised in bed by means of splintage. It is of interest to record that this apparatus has been constructed by the boys in the manual room.

Practical Work.

The varied feature of the practical work described in the report for 1932 continues, but weaving, glove making, and the construction of soft toys have been introduced during the year.

During the year an attempt has been made to correlate the physical progress with the scholastic progress of each child, and to attain this object the following tests have been adopted and are carried out quarterly :—

(1) Children over the age of eleven—Cyril Burt Northumberland tests in
    (*a*) Arithmetic, English, History, and Geography.
    (*b*) General Intelligence.

(2) Children under the age of eleven—Ballard's one minute tests in Arithmetic, Reading, and General Intelligence.

Graphs are drawn as follows for each child :—

(*a*) Showing educational progress, constructed from the results of the above tests, and

(*b*) Showing physical progress as assessed by medical examination.

It is of interest to record that the trend of each graph shows a direct relationship and it is proposed at a later date to present a special report on this work.

Scouts and Guides.

The scout and guide work has been carried on most successfully during the year.

The scouts in open competition with local troops were again successful in winning the Russell Edward Shield, and the guides made the year's work memorable by winning a silver cup in a competition open to guide companies in orthopædic hospitals throughout England and Scotland.

Not the least important aspect of the scout and guide work is that the interest of the children is stimulated, their sense of isolation and abnormality is eliminated and self-confidence is rapidly attained in the pursuit of the infinite variety of hobbies which form so essential a part of the scout and guide movement.

A camp has been constructed by the boys and girls and during the summer of 1934 it is proposed to hold week-end camps for scouts and guides alternately.

Interview of Parents in Manchester.

Regular visits by parents to the sanatorium are in many instances precluded by the distance of Abergele from Manchester. It was the desire of the House Sub-Committee that parents should be afforded every facility for determining the progress of their children.

This object has been achieved by monthly visits of the Medical Superintendent to Manchester for the purpose of interviewing parents. These visits have proved to be of real value and the average number of parents taking advantage of this arrangement each month is 65.

ESTATE.

During the year the afforestation of the estate was further developed and the following trees were planted :—

Transferred from Nursery.

Sitka spruce	3,200
Douglas pine	1,500
Norway spruce	1,750
Larch	2,000
Scots fir	1,000
Picea nobilis	18

The work of the year was largely concerned with filling up in the older plantations, but three new plantations were laid out at Cae Daffydd, Penrallt, and Plas Uchaf.

FARM.

The work of the farm has been concerned largely with the development of the dairy herd and at the end of the year the stock of milking cows was 40.

The milk is produced under environmental conditions similar to those required under the Milk (Special Designation) Order, 1923, for Grade A milk. In addition, a fortnightly clinical veterinary examination of the herd is carried out with fortnightly examination of a bulk milk sample for general bacteriological content and for the presence of tubercle bacilli.

A separate sample of milk is examined from each cow newly introduced into the herd.

The quantity and value of transfers from the farm to the sanatorium during the year were as follows :—

Milk	28,084	gallons
Potatoes	34	tons
Turnips	1¼	,,
Fowls	74	
Mutton	594	lbs.
Eggs	6,443	
Total value of transfers	£2,434	

GARDENS.

The transfers from the garden to the sanatorium during the year were as follows :—

Apples	2,062½	lbs.	Plums	58	lbs.
Beetroot..	2,028	,,	Parsnips	1,968	,,
Beans—French ..	232	,,	Parsley	601	bunches
Beans—Broad ..	680	,,	Peas..	1,026	lbs.
Blackcurrants ..	197½	,,	Potatoes	14,224	,,
Broccoli	141½	doz.	Radishes	677	bunches
Celery	80¾	,,	Raspberries	194¼	lbs.
Cucumbers	226		Rhubarb	1,576	,,
Cauliflowers	102	doz.	Rhubarb	109	bunches
Cabbages	1,015	,,	Strawberries	55¼	lbs.
Carrots	2,209	lbs.	Swedes	634	,,
Gooseberries	621	,,	Savoys	199½	,,
Kale	1,774	,,	Sprouts	1,529	,,
Leeks	848	,,	Tomatoes	852	,,
Lettuce	318	doz.	Thyme	40	bunches
Marrows	804	lbs.	Turnips	958	lbs.
Mint	177	bunches	Sage..	48	bunches
Onions (Spring) ..	180	,,	Tops	836	lbs.
Onions	799	lbs.			

Approximate value of transfers £505

BAGULEY SANATORIUM.

By Dr. H. G. Trayer, Medical Superintendent.

The number of available beds was 333.

The number of patients admitted was 549, the daily average number of beds occupied being 326·9.

The following table gives the number of admissions, discharges, etc., for the year 1933, compared with the previous four years:—

	1929	1930	1931	1932	1933
Number of patients:—					
In hospital, 1st January	316	329	300	309	311
Admitted during the year ..	713	599	533	532	549
Discharged during the year ..	469	442	377	362	429
Died during the year	231	186	147	168	124
Total treated during the year ..	1,029	928	833	841	860
Remaining in hospital, 31st Dec.	329	300	309	311	307
Daily average number of beds occupied	326·42	325·6	325·53	325·45	326·9
Average length of stay of patients discharged:—					
Males .. .. (days)	158·93	188·01	174·4	167·55	157·42
Females .. .. ,,	188·15	208·1	214·74	252·74	216·95
Average length of time in hospital of fatal cases:—					
Males .. .. (days)	212·51	159·4	144·12	206·02	230·26
Females .. .. ,,	203·04	206·36	263·25	165·1	194·13
Case mortality	22·41	20·04	17·64	19·97	14·41

Cases admitted from the districts of the Bucklow Joint Hospital Board are included in all totals given in this report. The details of such cases are :—

On 1st January, 1933, there were five patients in the sanatorium ; two patients were admitted during the period, three patients were discharged, and one died ; three patients remained in the hospital on 31st December.

Pathological Laboratory Report.

Examinations of Sputum for Bac. Tub.:—

Number of specimens examined	2,469
Number of specimens found to be positive	1,097
Number of specimens found to be negative..	1,372

Andrus and MacMahon's modification of Pettenger's method for examining consistently negative sputum cases has again proved of great value. Of 106 consistently negative results by the ordinary methods of staining, 21 showed the presence of tubercle bacilli by this special test.

Other examinations :—

Special examination of urine	5
Cerebro-spinal fluid	1
Pleural effusion	6

(In all these examinations the results were negative for tubercle bacilli.)

During the year, a large number of Wassermann reactions were carried out by the Public Health Laboratory.

X-Ray Report.

Number of patients screened	1,560
Number of skiagrams taken	564

Dental Report.

Patients seen	521
Extractions	449
Fillings	4
Scraping and cleaning	10
Dentures	5
Repairs and adjustments to dentures	8

The dentist has also paid numerous visits to the wards for the purpose of examining the mouths of bed-patients.

RETURN SHOWING THE IMMEDIATE RESULTS OF TREATMENT OF PATIENTS SUFFERING FROM PULMONARY TUBERCULOSIS AND OF OBSERVATION OF DOUBTFUL CASES DISCHARGED DURING THE YEAR.

Classification on Admission	Age at Discharge	Condition on Discharge	Duration of Stay								Total
			Under 3 months		3—6 months		6—12 months		More than 12 months		
			M.	F.	M.	F.	M.	F.	M.	F.	
CLASS T.B. MINUS	Ages 15—24	Quiescent ..	2	1	..	..	1	..	1	..	5
		Improved ..	2	..	3	4	2	2	..	..	13
		Stationary ..	..	1	1	..	..	..	..	1	3
		Worse	..	..	..	..	..	..	..	..	..
		Died	1	1	..	1	..	..	..	..	3
	Ages 25—34	Quiescent ..	1	1	..	..	..	..	..	..	2
		Improved ..	1	4	4	..	..	1	..	..	10
		Stationary ..	..	..	1	..	..	1	..	..	2
		Worse	..	..	..	..	..	..	..	..	..
		Died	..	..	..	..	..	..	..	..	..
	Ages 35—44	Quiescent ..	1	..	..	1	..	..	..	..	2
		Improved ..	1	..	3	2	2	..	..	..	8
		Stationary ..	1	..	..	..	..	..	..	..	1
		Worse	..	..	..	..	..	..	..	..	..
		Died	..	..	..	..	..	..	..	..	..
	Ages 45—54	Quiescent ..	3	..	..	..	1	..	..	..	4
		Improved ..	1	..	1	1	..	..	..	..	3
		Stationary ..	1	..	..	..	..	..	..	..	1
		Worse	..	..	..	..	..	..	..	..	..
		Died	..	..	..	..	..	..	..	..	..
	Ages 55 and over	Quiescent ..	1	..	..	..	..	..	1	..	2
		Improved ..	2	1	..	..	1	..	..	..	4
		Stationary ..	..	..	..	..	1	..	..	..	1
		Worse	..	..	1	..	..	..	..	..	1
		Died	..	..	..	..	..	..	..	..	..

ification dmission	Age at Discharge	Condition on Discharge	Duration of Stay									Positive Sputum on Admission—Negative on Discharge
			Under 3 months		3—6 months		6—12 months		More than 12 months		Total	
			M.	F.	M.	F.	M.	F.	M.	F.		
s T.B. -us, up I.	Ages 15—24	Quiescent ..	..	..	..	..	..	..	..	..	..	4
		Improved ..	..	..	1	..	1	..	..	2	4	
		Stationary ..	..	..	..	..	..	..	..	..	..	
		Worse	..	..	1	..	..	..	..	1	2	
		Died	..	..	..	..	..	..	..	..	..	
	Ages 25—34	Quiescent ..	..	..	..	..	1	..	..	..	1	1
		Improved ..	1	..	..	..	..	..	..	..	1	
		Stationary ..	..	..	..	..	..	..	..	..	..	
		Worse	..	..	..	..	..	..	..	..	..	
		Died	..	..	..	..	..	..	..	..	..	
	Ages 35—44	Quiescent ..	2	..	..	..	..	..	..	..	2	—
		Improved ..	..	..	..	..	..	..	..	..	..	
		Stationary ..	..	..	..	..	..	..	..	..	..	
		Worse	..	..	..	..	..	..	..	..	..	
		Died	..	..	..	..	..	..	..	..	..	
	Ages 45—54	Quiescent ..	..	..	..	..	..	..	..	..	..	—
		Improved ..	..	..	..	..	..	..	..	..	..	
		Stationary ..	..	..	..	..	..	..	..	..	..	
		Worse	..	..	..	..	..	..	..	..	..	
		Died	..	..	..	..	..	..	..	..	..	
	Ages 55 and over	Quiescent ..	1	..	..	..	..	..	..	..	1	1
		Improved ..	..	..	..	..	..	..	..	..	..	
		Stationary ..	..	..	..	..	..	..	..	..	..	
		Worse	..	..	..	..	..	..	..	..	..	
		Died	..	..	..	..	..	..	..	..	..	

Classification on Admission	Age at Discharge	Condition on Discharge	Duration of Stay									Posit Sputu Admis Negati Disch
			Under 3 months		3—6 months		6—12 months		More than 12 months		Total	
			M.	F.	M.	F.	M.	F.	M.	F.		
Class T.B. Plus, Group II.	Ages 15—24	Quiescent ..	..	..	..	..	..	..	..	..	..	
		Improved ..	5	..	3	3	2	5	5	3	26	
		Stationary ..	..	4	1	2	1	..	2	2	12	17
		Worse	..	..	1	1	..	..	1	3	6	
		Died	..	..	2	..	..	..	2	..	4	
	Ages 25—34	Quiescent ..	1	..	..	..	..	..	..	..	1	
		Improved ..	9	3	10	3	4	3	2	4	38	
		Stationary ..	2	3	3	1	3	1	4	..	17	19
		Worse	1	1	1	1	..	1	1	2	8	
		Died	2	1	..	2	1	..	3	1	10	
	Ages 35—44	Quiescent ..	..	..	..	..	..	..	..	..	..	
		Improved ..	10	4	8	1	5	1	1	2	32	
		Stationary ..	4	5	1	..	2	..	..	2	14	15
		Worse	..	..	..	..	1	1	..	..	2	
		Died	..	..	..	..	1	..	..	..	1	
	Ages 45—54	Quiescent ..	..	..	..	..	..	..	..	..	..	
		Improved ..	4	1	6	1	..	2	2	1	17	
		Stationary ..	5	..	1	..	..	..	3	..	9	4
		Worse	..	..	1	..	..	..	..	..	1	
		Died	..	..	1	..	..	..	..	1	2	
	Ages 55 and over	Quiescent ..	..	..	..	..	..	..	..	..	..	
		Improved ..	2	..	3	..	2	..	..	..	7	
		Stationary ..	..	1	1	..	1	..	1	1	5	7
		Worse	1	..	..	..	..	..	..	..	1	
		Died	..	..	..	..	1	..	1	..	2	

fication lmission	Age at Discharge	Condition on Discharge	Duration of Stay									Positive Sputum on Admission—Negative on Discharge
			Under 3 months		3—6 months		6—12 months		More than 12 months		Total	
			M.	F.	M.	F.	M.	F.	M.	F.		
T.B. US, P III.	Ages 15—24	Quiescent ..	..	..	..	..	..	..	..	..	..	2
		Improved ..	1	1	2	1	1	1	1	1	9	
		Stationary ..	..	2	1	..	1	..	..	..	4	
		Worse	..	4	2	2	1	..	1	..	10	
		Died	7	10	3	4	3	2	1	2	32	
	Ages 25—34	Quiescent ..	..	..	..	..	..	..	..	..	..	6
		Improved ..	..	2	2	..	3	1	..	2	10	
		Stationary ..	4	2	2	2	1	2	..	2	15	
		Worse	1	5	1	..	2	1	..	1	11	
		Died	11	3	4	2	1	3	1	..	25	
	Ages 35—44	Quiescent ..	..	..	..	..	..	..	..	..	..	4
		Improved ..	..	..	..	2	..	1	..	..	3	
		Stationary ..	3	1	3	1	2	..	..	..	10	
		Worse	..	1	2	..	2	..	..	..	5	
		Died	11	4	3	3	3	2	1	..	27	
	Ages 45—54	Quiescent ..	..	..	..	..	..	..	..	..	..	6
		Improved ..	4	1	3	2	..	1	..	..	11	
		Stationary ..	4	3	1	..	1	2	..	..	11	
		Worse	1	..	5	..	2	1	..	..	9	
		Died	7	..	..	..	..	..	2	..	9	
	Ages 55 and over	Quiescent ..	..	..	..	..	..	..	..	..	..	1
		Improved ..	..	..	1	..	..	..	..	..	1	
		Stationary ..	3	..	1	..	..	..	..	..	4	
		Worse	..	..	..	..	..	..	..	..	..	
		Died	2	1	1	1	..	..	..	1	6	

Summary of Tables.

Classification	Condition on Discharge				
	Quiescent	Improved	Stationary	Worse	Died
Class T.B. Minus	15	38	8	1	3
,, T.B. Plus, Group I	4	5	..	2	..
,, T.B. Plus, Group II.	1	120	57	18	19
,, T.B. Plus, Group III.	..	34	44	35	99
Total	20	197	109	56	121

Observation Cases.

Diagnosis on Discharge from Observation	Stay under four weeks		Stay over four weeks		Totals	
	M.	F.	M.	F.	M.	F.
Tuberculous	1	1	5	3	6	4
Non-tuberculous	13	4	21	6	34	10
Doubtful	5	1	..	..	5	1

Three deaths (all males) occurred among cases not accepted as suffering from pulmonary tuberculosis. The particulars in respect of these deaths, in all cases confirmed by post-mortem examination, are as follows :—

Age	Cause of Death
21	Pneumonia and bronchiectasis.
42	Cerebral hæmorrhage, bronchial carcinoma, and bronchiectasis.
68	Œdema of lungs, chronic passive pulmonary congestion, and arteriosclerosis.

Health and Hygiene Lectures to Patients.

A series of lectures have been given to the patients during the year, and, as anticipated in my previous report, the new recreation hall has proved of inestimable value in the arrangements for these lectures.

Special Methods of Treatment.

Collapse therapy associated with the administration of Sanocrysin for control of disease in the uncollapsed lung, appears to be of very definite value, though the number of cases to date do not provide sufficient material to do more than record this observation.

Occupational Therapy.

"Baguley Crafts" have been exhibitors at three large and two small exhibitions during the past year and have met with well deserved success. These exhibitions in themselves do not entirely absorb our products, but the connections they have established may help to broaden our markets. Up-to-date, Baguley Crafts have obtained four Diplomas of Merit from the organisers of public exhibitions. Our Christmas trade—particularly the sale of calendars—is gradually increasing, thanks largely to the efforts of Mr. A. Moore, of the Central Office.

The difficulties of conducting a successful Handicraft Department in all its activities is no light one ; for example, crafts must have some selling value (they are usually to a considerable extent dependent upon fashion), therefore it is essential that those responsible should have the opportunity from time to time to visit craft and trade exhibitions elsewhere than in Manchester, so that new trends can be studied before they become generally known.

It is not a far cry from occupational treatment for in-patients to a vocation for discharged patients, and this could be best met by a factory on the lines of the Altro Workshops for Consumptives, of New York. It appears reasonable to suggest that such a factory could in the first place manufacture overalls and indoor uniforms for Corporation workers. If such a factory were situated near the Sanatorium, the welfare of the workers could be guarded by the medical officers under whom they had been as in-patients.

Recreation.

It has been accepted for many years that there are four cardinal principles in routine sanatorium treatment : moving air, good food, rest, and graduated or controlled effort. It is suggested that the time has come to definitely add a fifth—controlled and organised recreation. This fifth principle is of particular importance in the winter months.

One would first include wireless. The distribution of this form of entertainment by headphones appears to be the best method for patients, and a member of the staff should be detailed to select the programmes to be transmitted, keeping in mind the wishes of the majority.

Patients should be encouraged to find in recreation, reading matter other than certain sections of the newspapers. There is little doubt that many patients find a solace in books during their illness that they never before contemplated as being possible. A hospital library should be a live thing, run by the patients themselves, and frequently replenished by books selected by them.

Communal recreation is of the utmost importance, and it has been possible to have two talking picture programmes, one play or concert, and a whist drive each week throughout the winter months.

In the event of this report coming to the notice of those who have contributed to the entertainment of the patients during the year, the opportunity is again taken of expressing sincere and grateful thanks for their kindness and generosity.

Staff.

I would again express my appreciation of the loyal and willing discharge of duty by all members of the staff throughout the year.

REPORT ON THE WORK OF THE MIDWIVES' DEPARTMENT FOR 1933.

The Department deals with :—

A. The Inspection of Midwives under the Midwives Acts, 1902-1926.

B. Domiciliary Nursing Visits to Mothers and Babies, in connection with schemes for maternity and child welfare under the Maternity and Child Welfare Act, 1918.

C. The Investigation of Cases of—

- (i.) Maternal death.
- (ii.) Puerperal fever and pyrexia.
- (iii.) Stillbirth and neo-natal death in midwives' practices.
- (iv.) Pemphigus neonatorum.

Staff—

Inspector of Midwives.

Assistant Inspector of Midwives.

4 Maternity Nurses.

3 Ophthalmic Nurses. (See special report.)

A. *Inspection of Midwives.*

Total registered births for the City (adjusted figure)—

Live births	11,116	
Still births	582	
		11,698
Total notified births (live and still-unadjusted figure)		12,633

Occurrence of Notified Births.

(1) Births at Home.		
(i.) Taken by midwives, including cases in which midwife acts as maternity nurse (figures based on yearly return of cases made by midwives to L.S.A.)	5,103	
(ii.) Taken by doctors, no midwife present	230	
(iii.) Taken by St. Mary's Hospital District Staff in Manchester Area	1,212	
		6,545
(2) Births in Institutions.		
(i.) Hospitals	5,104	
(ii.) Maternity homes registered under Nursing Homes Registration Act, 1927	984	
		6,088
		12,633

Number of Midwives in Practice.

202 midwives gave notice of intention to practice January, 1933. Of the independent practising midwives, during the year, 8 gave up work and 3 new midwives started to practice.

166 midwives notified their intention of doing domiciliary practice.

4,636 cases were taken by the 110 independent midwives residing in Manchester. These cases were distributed among them as follows :—

TABLE I.

	Number of Midwives	Number of Cases taken	Per cent. of Total Number of Cases	Average Number of Cases per Midwife
Practices of over 100 cases per annum	11	1,360	29·3	123·6 (4 of these midwives take out a pupil)
Under 100, over 50	25	1,732	37·3	69·2 (1 of these midwives takes out a pupil)
Between 20 and 50	38	1,269	27·3	33·4
Under 20	36	275	5·9	7·6

The total number of cases taken by midwives shows a decrease of 778 against a decrease of 481 of all notified births.

TABLE II.

ANALYSIS OF CASES TAKEN BY MIDWIVES.

Midwives giving notice of intention to practice in the Manchester Area	Number of Midwives	Midwife only at the Case		Midwife with Doctor called in		Midwife as Maternity Nurse	Total Number of Cases	Per cent. of Notified Births	Per cen of Registe Live Bir
		Primiparæ	Multiparæ	Primiparæ	Multiparæ				
1. BIRTHS AT HOME.									
Independent Midwives—									
(*a*) Certificated (Manchester Area)	108	698	2,545	310	420	623	4,596	36·38	41·34
(*b*) Bona-fide (Manchester Area)	2	5	18	2	..	15	40	0·31	0·35
(*c*) Certificated (Manchester Area), do no work	6	..	..	..	..	..	..	..	..
(*d*) Certificated (reside outside Manchester)	19	33	109	28	29	22	221	1·82	1·93
(*e*) Certificated (reside outside Manchester), do no work ..	8	..	..	..	..	..	..	..	..
Midwives employed by Nursing Associations :—									
Manchester	14	17	155	9	14	81	276	2·18	2·48
Salford	5								
Cheshire County Nursing Assoc'n	4								
2. BIRTHS IN INSTITUTIONS.									
Midwives employed in registered Maternity Homes taking midwifery cases only and having no resident medical practitioner..	36	310	154	48	27	157	696	5·50	6·26
	203	1,033	2,981	397	490	898	5,829	46·14	52·43

Distribution of all Domiciliary Cases (based on notified births).

		Per cent. Notified Births
6,545 births took place in domiciliary practice ..		= 51·80
Distributed as follows :—		
See Table II.—		
Midwives only at the birth	3,550	= 28·10
Registered medical practitioner summoned by midwife under C.M.B. rules and present at birth	812	= 14·11
Registered medical practitioner with midwife as maternity nurse	741	
Registered medical practitioner alone..	230	
Hospital District Service	1,212	= 9·59

Changes in proportion of cases taken by midwives and midwives acting as maternity nurses, calculated on registered live births:—

	per cent.
1929	60·26
1930	52·88
1931	56·75
1932	54·94
1933	52·34

Supervision and Instruction of Midwives.

Midwives were suspended from work on 92 occasions on account of contact with infection or being themselves liable to be a source of infection.

As there is a staff of trained nurses available to take over their cases, midwives are encouraged to report cases with raised temperature before they become notifiable under the Puerperal Pyexia Regulations.

	Suspensions.			
1929	223	= 2·83	per 100	cases taken.
1930	165	= 2·27	,,	,,
1931	129	= 1·85	,,	,,
1932	88	= 1·35	,,	,,
1933	92	= 1·57	,,	,,

No serious breach of the Rules of the Central Midwives Board has occurred during the year.

Special Work on Septic Infections.

From July 1st, 1932, in order to assist in research work into puerperal fever undertaken by Dr. Phyllis M. Congdon, the throat and nose of every midwife concerned with a case of puerperal pyrexia has been swabbed by one of the Inspectors of Midwives.

During 1933, 62 swabs were taken.

In two cases hæmolytic streptococci were found in both midwife and patient. In eight cases the midwife, but not the patient, had a positive result, and in 13 cases the patient had a positive result, the midwife being negative. Three of these patients died.

The midwife is suspended for disinfection in the usual way, but is not suspended as a result of the positive swab unless there is reason to suspect a definite causal relationship between her germ and the patient's fever.

The midwife is informed of the result and advised to wear a mask of the pattern recommended on page 108 of the Final Report of the Maternal Mortality Committee, and is asked to ring up the Inspector of Midwives for advice if there is any suspicious rise of pulse or temperature in other patients.

In one case a related pyrexia was reported. The patient was notified to be suffering from puerperal fever on the 24th day. The midwife, who had ceased attending on the 10th day, was recalled on the 21st day as the patient was not well. She visited for two days—the patient was removed to Monsall the following day. Swabs from the uterus gave hæmolytic streptococcus. Two days later the midwife began with acute tonsillitis and was suspended until her throat was better. Swabs were taken—the nose swab gave hæmolytic streptococcus. Further swabs were taken, a negative swab being obtained a month later.

The midwife had no other cases on at the time, and has had no further case of puerperal pyrexia in her practice.

Lectures.

A series of 3 post-graduate lectures given by specialists, in the spring and autumn, were much appreciated by the midwives and well attended.

6 midwives are approved by the Board to take pupil midwives for district experience.

Payment to midwives by the Local Authority is made as follows :—

	£	s.	d
1. Under the Midwives Act, 1926, section 2 (1), for loss of work during suspension—7 claims	8	19	0
2. For non-booked cases taken as emergencies (including abortion)—9 claims	5	10	0
3. By resolution of the City Council, August 3rd, 1932, 10/- may be paid to a midwife who loses her fee because she has sent a booked case to an Infant Welfare Ante-Natal Clinic and the case has subsequently been transferred to hospital prior to or during delivery.			
21 claims	10	10	0
Visits made to midwives in their own homes	530		
Midwives interviewed at the office	582		

Records of Calling in Medical Aid.

Records of calling in medical aid in accordance with the Rules of the Central Midwives Board were sent in by 112 independent practising midwives, by midwives from District Nursing Associations, and by Registered Maternity Homes having no resident medical officer. The number of records sent and the number of applications for payment of their fee by registered medical practitioners is shown below :—

TABLE III.

	Number of Midwives' Own Cases	Number of Records Sent	Number of Records Sent per 100 Cases	Number of Applications for Payment	Number of Applications made per 100 Records
1930	6,142	3,236	52·6	1,718	53·0
1931	5,842	2,874	49·1	1,598	55·6
1932	5,474	2,538	46·3	1,500	59·1
1933	4,901	2,413	49·2	1,455	60·2

It will be noticed that medical aid is called in for a very high proportion of cases and that application by medical practitioners for payment of their fees is steadily rising.

Number of cases referred by midwives to pre-maternity clinics in addition to above figures :—

1930	405	= 6·59 per cent. of their cases.
1931	338	= 5·78 „ „
1932	211	= 3·85 „ „
1933	208	= 4·24 „ „

The next table shows how many calls for assistance were made before labour, and by whom :—

TABLE IV.

	Records sent to Doctors		Records sent to Ante-natal Clinics
	Assistance in labour and puerperium	Assistance during pregnancy	
Midwives	1,755 sent by 112 midwives	349 sent by 71 midwives	208 sent by 47 midwives
District Nursing Association ..	48	11	..
Maternity Homes	238	12	..

This does not give a true picture of the number of women who attend ante-natal clinics and are later delivered by midwives, as in many cases the mother goes to the clinic before she books her midwife, and the written record of having referred a patient to the clinic is not in that case always sent to the Local Supervising Authority.

20·7 per cent. of all records of sending for medical aid by midwives for emergencies during labour and the puerperium were for delayed labour, and 30·4 per cent. for a ruptured perineum. This is respectively 8·7 per cent. and 12·5 per cent. of all their cases, and compares with 6·5 per cent. and 9·8 per cent. for 1932.

According to statements made by doctors when making applications for fees, forceps were applied in 183 cases, giving a forceps rate of 3·5 per cent., as against 3·4 per cent. for 1932.

40·2 per cent. of all the records were sent for assistance during labour. 32·4 per cent. were for unsatisfactory conditions occurring during the puerperium. Of these 10·3 per cent. were for the infant.

Payment of fee of the registered medical practitioner called in by the midwife, in accordance with the Rules, is made by the Local Supervising Authority under the authority of the Midwives Act, 1918, section 14 (1). The Local Supervising Authority has power to recover the fee from the patient, or husband, if they have the means to pay.

Particulars of applications from medical practitioners in 1933 for the payment of their fees:—

	1932	1933
Number of families whose incomes were below the scale ..	610	542
,, ,, ,, ,, above the scale ..	789	796
,, ,, who paid doctor themselves	13	14
Conditions not fulfilled	15	21
No account sent (see Ophthalmia Neonatorum Regulations, 1926)	73	82
Number of fees paid by the Local Supervising Authority.. ..	1,472	1,420

Provision of the Services of Consultants for Difficult Child-birth.

Second Opinion.—Under the Notification of Puerperal Fever and Puerperal Pyrexia Regulations, 1926, a second opinion on his case may be obtained by a registered medical practitioner. A fee of £3 3s. for the consultation is payable by the Public Health Committee.

	1932		1933
Applications for payment of this fee were made	6	..	13

Obstetric Difficulty.—In January, 1930, in connection with the Council's scheme for maternity and child welfare under the Maternity and Child Welfare Act, 1918, the provision of a consultant service was extended to allow medical practitioners to call in a consultant in the event of obstetric difficulty arising during the ante-natal period, labour, or the puerperium. The fee is fixed at £5 5s, inclusive.

	1932		1933
Applications for payment of this fee were made	6	..	9

Consultants must, in every case, be selected from a list of approved practitioners engaged solely in gynæcological and obstetric practice in the City of Manchester.

Payments made under the above Acts for the period January 1st to December 31st, 1933, were as follows:—

Midwives Act, 1918.

	£	s.	d.
Paid to doctors	1,648	12	6
Recovered from the patients	513	0	3
Puerperal Fever Regulations, 1926.			
Paid to consultants	25	11	0
Recovered from the patients		—	
Maternity and Child Welfare Act, 1918 (*Difficult Labour*).			
Paid to consultants	57	15	0
Recovered from the patients	6	17	0
Total paid	1,731	18	6
Recovered	519	17	0

Apart from fees recovered from patients, the average cost to the Council per case for medical assistance in cases booked by midwives is 6s. 8d.

B. *Domiciliary Nursing Visits to Mothers and Babies.*

The mothers and babies who are nursed or helped by the 4 trained nurse-midwives on the staff of the Department are referred to them from the following sources:—

(*a*) Midwives.

(*b*) Registered medical practitioners, under the Puerperal Fever, Puerperal Pyrexia, and Pemphigus Neonatorum Regulations.

(*c*) Health visitors.

(*d*) Maternity and child welfare clinics.

(*a*) *Midwives.*—Midwives cases may be—

(i.) Normal puerperal cases, with some septic condition, *e.g.*, a whitlow, which make it undesirable for the midwife to keep the case.

(ii.) Normal puerperal cases when the patient is in contact with an infectious disease, such as measles, and isolation cannot be obtained, to avoid the risk of the midwife carrying infection to other patients.

(iii.) Abnormal puerperal cases, in which either mother or baby has some condition diagnosed as septic, or thought likely to be so. According to her rules the midwife must either give up the case or remain in sole attendance.

(iv.) Cases in which there is some unsatisfactory condition of mother or baby at the end of the ten-day lying-in period which requires further nursing, *e.g.*, inflamed veins, premature baby.

(*b*) *Cases from Doctors.*—An offer of skilled nursing is made to every practitioner who notifies a case under the Puerperal Fever, Pyrexia, or Pemphigus Neonatorum Regulations. The nurse then works under the direction of the patient's own doctor. For instance, if an incision into a mammary abscess has to be made, the nurse will attend at the house and assist the doctor and nurse the case afterwards.

(*c*) *Health Visitors' Cases.*—The nurse visits because the health visitor reports some abnormal condition of mother or baby, such as cracked nipples, prematurity, or insufficient breast milk.

(*d*) *Maternity and Child Welfare Clinics.*—The doctor at the clinic asks to have a baby treated for some condition, such as an unhealed umbilicus. A large number of cases for re-establishment of breast feeding come from the clinics.

The visits paid by the nurses under the above headings in 1933 were as follows :—

	Number of Visits
Puerperal Fever, Puerperal Pyrexia, Raised Temperature ..	896
Mammary Abscess and Mastitis	314
Phlebitis	92
Puerperal cases in contact with Scarlet Fever	21
Mother still unsatisfactory at end of lying-in period	24
Pemphigus Neonatorum and other skin conditions	1074
Septic and unsatisfactory umbilicus	1,773
Spina Bifida	13
Prematurity of Infant	440
Promotion and re-establishment of breast-feeding	330
Unsatisfactory infants	88
Unclassified nursing visits	4
	5,063

Artificial Feeding.—71 notifications of recourse to artificial feeding were received from midwives. In 22 cases it was resorted to by a doctor's orders, and in 11 because the baby was to be later separated from its mother. Of the remaining 38 cases of failure to breast-feed, more than half were said to be due to scanty secretion of milk. There were 4 cases of cleft palate.

Every case is visited in the first instance by the Health Visitor, who refers it to a special maternity nurse if it is thought that there is any chance of promoting or re-establishing breast-feeding.

Of the 42 cases taken by the nurses, 10 were successful and 5 partly successful.

Weakly and Premature Infants.—440 visits were paid by the special nurses to weakly and premature babies.

34 babies were attended, including 3 sets of twins and 1 set of triplets.

The babies were visited regularly by the Health Visitor when the special nurse ceased attending, and the results when last seen by the Health Visitor were as follows :—

Doing well .. .. 23—7 were completely and 7 partly breast-fed.
Fairly well .. .. 4—1 was ,, ,, 2 ,, ,,
Died .. .. 7—3 were ,, breast-fed.

The weights of 6 of the babies who are doing well were, at birth, 2¼ lbs., 2½ lbs., 2¾ lbs., 3 lbs. 8 oz. (2), 3 lbs. 10 ozs.

C. *The Investigation of Cases of*—

(i.) Maternal death.
(ii.) Puerperal Fever and Pyrexia.
(iii.) Still-birth and neo-natal death in midwives' practices.
(iv.) Pemphigus Neonatorum.

Maternal Deaths.

109 maternal deaths occurred in Manchester.

Of these, 71 were investigated in accordance with the request of the Ministry of Health.

The figures differ from those compiled for the requirements of the Registrar General, as in the cases investigated, child-birth was not always given as the primary cause of death.

The remaining 38 deaths refer to women living outside the Manchester area but dying in it.

The most notable features of the puerperal fever cases for the year are :—

(*a*) although the incidence is considerably higher the death rate is slightly lower than that of last year;

(*b*) the hospital cases show an attack rate of 4·34 per 1,000 cases, against 1·85 per 1,000 cases last year.

	Cases of Puerperal Fever per 1,000 notified births	Mortality per cent. of Puerperal Fever cases
1931	10·31	12·2
1932	7·32	17·7
1933	10·29	16·16

TABLE V.

TABLE SHOWING ALL MATERNAL DEATHS OCCURRING IN MANCHESTER IN 1933. THE LAST COLUMN GIVES THE 1932 RATE FOR COMPARISON.

Cause	Normal Full-term Labour	Abnormal Full-term Labour	Abortion	Total	Rate per 1,000 Registered Live Births	
					1933	1932
PUERPERAL FEVER—						
†(*a*) Manchester cases.. ..	8	7	6	21	1·88	1·43
(*b*) Living out of district, delivered and died in Manchester	—	1	..	1		
(*c*) Living out of district, delivered outside, died in Manchester Hospitals	2		..	2		
		Puerperal Fever ..		24		
OTHER CAUSES—						
(*a*) Manchester cases ..	36		14	*50	4·49	2·96
					6·37	4·39
(*b*) Living out of district, delivered and died in Manchester	No information		—	35		
		Other Causes ..		85		
		Total Cases ..		109		

* Analysis of causes is given on page 182.

† 3 of these cases were not notified as puerperal fever. 2 were cases of abortion which had been referred to the Coroner. The other case the certified cause of death was changed on the instruction of the Registrar General.

The maternal death rate for all cases occurring in the City, per 1,000 *notified* births, was 8·62.

The maternal death rate per 1,000 registered live births, based on the Registrar General's Return, was for 1932 3·64 and for 1933 5·10.

Of these two maternal death rates—8·62 and 5·10—the latter is the true figure for the city. The former larger figure includes deaths in bad cases admitted to hospitals, etc., from outside areas urgently requiring such institutional care.

ATTENDANT AT CONFINEMENT WHEN MOTHER SUBSEQUENTLY DIED AND THE MORTALITY RATE PER 1,000 CASES IN DOMICILIARY PRACTICE (MANCHESTER CASES ONLY).

	MIDWIVES' CASES			DOCTORS' CASES				Abortions	Institutions	
	Midwife only	Doctor present, called in by Midwife according to C.M.B. Rules	Death Rate per 1,000 cases taken	Doctor with Midwife as Maternity Nurse	Death Rate per 1,000 cases taken	Doctor only. No skilled nursing	Death Rate per 1,000 cases taken			
Puerperal Fever..	5	1	1·37	2	2·69	1 (ultimately delivered in Hospital)	4·34	7	5	0·82
Other Causes ..	12 (Six cases admitted to Hospital for delivery, of which one died undelivered)		2·75	3 (One ultimately delivered in Hospital)	4·04	1 (ultimately delivered in Hospital)	4·34	14	20	3·28
	18		4·12	5	6·73	2	8·68	21	25	4·10

For number of cases taken, see page 172 of the Report.

Analysis of 50 deaths due to other causes than puerperal sepsis :—

Eclampsia	3
Nephritis	3
Toxæmia of pregnancy	2
Ante-partum hæmorrhage	2
Placenta prævia	5
Cardiac conditions	9
Pyelitis	1
Ruptured ectopic gestation	2
Ovarian cyst	1
Broncho-pneumonia	2
Lobar pneumonia	1
Ruptured uterus	2
Post-partum hæmorrhage	1
Peritonitis following abortion	1
Therapeutic abortion for carcinoma	1
Insanity	1
Tuberculosis	1
Sarcoma	1
Pulmonary embolism	5
Shock and cardiac failure following attempted criminal abortion	3
Post-operative debility, operation for cæsarean section	1
Post-operative shock, cæsarean section. Chronic toxæmia of liver and kidneys	1
Heart failure accelerated by an anæsthetic for an operation for pregnancy associated with a contracted pelvis	1

Deaths from abortion show a marked increase, being 29·2 per cent. of all the maternal deaths.

The following table shows the gradual increase in deaths from abortion for the past 5 years :—

Year	No. of Deaths	% of Maternal Deaths
1929	7	9·0
1930	9	12·8
1931	9	15·2
1932	11	21·1
1933	21	29·5

Puerperal Fever and Puerperal Pyrexia.

Every case of puerperal fever and of puerperal pyrexia notified under the appropriate regulations is investigated at the patient's home address and by interviewing the attendants at the labour if thought desirable.

Table VII. below sets out the number of cases notified as puerperal fever and puerperal pyrexia, and the diagnosis subsequently arrived at :—

TABLE VII.

	Number of Notified Cases	Changes in Diagnosis				Total Number of Cases Counted
		Puerperal Fever to Puerperal Pyrexia	Puerperal Pyrexia to Puerperal Fever	To Other Causes	Delivered Outside the City	
Puerperal Fever	122	– 3	+ 34	– 22	– 3	128
Puerperal Pyrexia	108	+ 3	– 34	..	..	77

Changes in diagnosis from puerperal fever to other cases were as follows :—

Tubercular peritonitis	1
Acute endocarditis and pericarditis	1
Acute myelogenous leucæmia	1
Submucous fibroid	1
Lobar pneumonia	1
Normal puerperium	2
Retroverted uterus	1
Menorrhagia	1
Endometritis	2
Simple abortion	8
Threatened abortion	2
Incomplete abortion	1
	22

TABLE VIII.

ANALYSIS OF CASES OF PUERPERAL FEVER AND PUERPERAL PYREXIA.

Number of Cases	Abortion or Premature Labour	Deaths from Abortion	Full-term Labour	Deaths at Full Term
	At 2-3 months .. 36	1	Normal labour .. 32	6
	,, 4 months .. 7	—	Abnormal labour . 34	4
	,, 5 ,, .. 4	1	No particulars .. —	—
	,, 6 ,, .. 3	2		
	,, 7 ,, .. 5	2		
	No information .. 7	—		
128	62	6	66	10

The number includes 6 full-term labours, 2 premature labours, 1 abortion, of whom 2 died, in January, 1934), delivered in Manchester Hospitals, but brought in from outside.

Number of Cases	Abortion or Premature Labour	Deaths from Abortion	Full-term Labour	Deaths at Full Term
	At 3 months .. 6	—	Normal labour .. 44	4
	,, 4 ,, .. 2	—	Abnormal labour .. 21	4
	,, 5 ,, .. —	—	No particulars .. —	—
	,, 6 ,, .. 1	—		
	,, 7 ,, .. 2	1		
	No information .. 1			
77	12	1	65	8 (3 died from sepsis)

The number includes 12 full-term cases brought in from outside districts and delivered Manchester Hospitals—2 died from causes other than sepsis.

The attendant at the confinement and the subsequent nursing care of the cases is given in Tables IX. and X.

Table IX.—Analysis of Cases of Puerperal Fever and Puerperal Pyrexia.

PUERPERAL FEVER, 128 Cases	MIDWIFE						DOCTOR, Midwife acting as Maternity Nurse			DOCTOR, No Skilled Nursing			INSTITUTION			HOSPITAL, External District		
	Midwife alone			Doctor present, called in according to C.M.B. Rules														
	Number of Attacks	Attack Rate per 1,000 Cases taken	Number of Deaths	Number of Attacks	Attack Rate per 1,000 Cases taken	Number of Deaths	Number of Attacks	Attack Rate per 1,000 Cases taken	Number of Deaths	Number of Attacks	Attack Rate per 1,000 Cases taken	Number of Deaths	Number of Attacks	Attack Rate per 1,000 Cases taken	Number of Deaths	Number of Attacks	Attack Rate per 1,000 Cases taken	Number of Deaths
Labour and premature labour 71	18	5·07	4 (1 died from other causes)	16 (1 delivered in Hosp'l)	19·70	1	6 (1 delivered in Hosp'l)	8·09	1	2	8·69	..	27	4·34	6 (2 from outside areas, 1 died in January, 1934)	2	..	..
Abortions 57	..	..	..	1	..	..	..	..	..	54 (37 sent direct to Monsall. 17 via other Hosp'ls)	*	4	2	..	..	..	..	..
	The attack rate in all cases booked by midwives was 7·71 per 1,000 cases taken.																	
PUERPERAL PYREXIA, 77 Cases																		
Labour and premature labour 67	13	3·66	1 (Sepsis)	11	13·54	..	5	6·74	1 (Sepsis)	4 (2 delivered in Hosp'l)	17·39	1 Sepsis (Delivered in Hosp'l)	25	4·10	5 (2 from outside areas)	9	..	1
Abortions 10	..	..	..	..	..	..	..	..	..	9 (7 sent direct to Monsall 2 via other Hosp'ls)	*	..	1	..	..	..	..	..
	The attack rate in all cases booked by midwives was 5·50 per 1,000 cases taken.																	

NOTES:—For number of cases taken, see page 172.
For the mortality rates, see Table VI.
No attack rate is calculated for cases taken on a hospital district, as cases are also taken outside the Manchester area.

TABLE X.

	Nursed in Monsall	Died	Percentage deaths	Nursed in other hospitals	Died	Percentage deaths	Nursed at home	Died
uerperal Fever ..	118	11	9·2	9	5	55·5	1	0
uerperal Pyrexia..	40	5 (2 from sepsis)	12·5	25	4 (1 from sepsis)	16·0	12	0

The causes of death in cases noted as puerperal pyrexia were :—

At Monsall Hospital ..	Puerperal sepsis	2
	Heart failure accelerated by operation for breast abscess	1
	Lobar pneumonia	1
	Pulmonary tuberculosis	1
Other Institutions ..	Puerperal sepsis	1
	Cardiac failure (pneumonia)	1
	Broncho-pneumonia	2
		9

After-Care of Cases of Puerperal Fever and Puerperal Pyrexia.

240 women who have suffered from puerperal fever or pyrexia were visited. 147 were in good health, 28 were under medical care, and 11 were urged to obtain medical advice—3 were pregnant, and 3 had had an abortion.

Still-birth and Neo-natal Death in Midwives' Practice.

The following table gives the total number of still-births notified in the City during the year :—

TABLE XI.

Number Still-births Notified	Number in Practice of			Per cent. of Notified Births	
	Midwives, including cases in which a Doctor is called in under C.M.B. Rules	Doctors, including cases with Midwife acting as maternity nurse	Hospitals	1933	1932
745	166 = 3·8% of cases taken	91 =9·3% of cases taken	488 = 6·6% of cases taken	5·89	4·89

Analysis of possible causes of 159 *still-births occurring in the practice of midwives, including cases in which medical aid was summoned by the midwife.*

28·3 per cent. of the cases of still-birth occurring in midwives' practices were primiparæ, and in 10·6 per cent. of these cases the still-birth was apparently due to breech delivery.

It is pleasing to note a further decrease in the number of deaths due to breech delivery, 6·2 per cent. of all cases, as against 9·2 per cent. in 1932 and 11·8 per cent. in 1931. This is probably due to more efficient ante-natal care, the condition being recognised in pregnancy and the breech turned.

Difficult and instrumental deliveries account for the greater number of still-births in the full-time fresh fœtus, 13·2 per cent. of all causes of still-birth.

Poor health of the mother is given as a possible cause in a large proportion of the macerated fœtuses, being 11·4 per cent. of the total still-births. No medical examination of the mother or fœtus was made in these cases.

	Fœtus fresh			Fœtus macerated		
	Full term	Pre-mature	No. of Primi-paræ	Full term	Pre-mature	No. o Primi paræ
1. Illness of Mother—						
Influenza	1	..	..	3	1	1
Probable specific disease	1	..	..	1	1	..
Albuminuria	3	..	1	..	4	2
Probable toxæmia	2	1	1	1	3	..
Poor health	5	2	2	10	9	4
Falls	..	..	..	5	2	..
2. Ante-partum hæmorrhage	2	4	1	..	4	1
3. Hydramnios	..	1	..	1	..	1
4. Accidents of labour—						
Instrumental delivery	12	1	8	..	..	..
Breech delivery	8	2	5	..	..	..
Long or difficult labour	10	1	6	..	..	..
Twin births	5	1	..	..	..	..
Abnormal cords	6	1	..	1	..	..
5. Congenital malformations	5	5	3	4	2	1
6. Shock	1	..	1	3	2	1
7. No sufficient reason shown	10	..	2	9	4	6
8. No information .. (7)	..	..	..	..	..	..
	71	19	30	37	32	17

In cases of still-birth occurring in the practices of midwives, follow-up visits were paid at intervals of 6 months. 143 cases were visited during the period. 1 woman was pregnant, 1 had a living child, and 1 had had another still-birth.

Neo-natal Deaths in Midwives Practice.

There were 82 deaths. 11 of these occurred before a medical practitioner could be obtained.

	Number of Cases
No inquest considered necessary	5
Inquest verdicts—	
Accidental asphyxiation	3
Asphyxia probably due to a convulsion natural causes	
Asphyxia due to lack of attention at birth—B.B.A.	
Certificate given by doctor	1
Post-mortem without inquest—	
Asphyxia due to convulsions	2
Prematurity	

TABLE XII.
PEMPHIGUS NEONATORUM.

Pemphigoid skin rashes reported	Notified Cases	Not Notfied	Total Deaths	Death per cent. of all reported cases
79	41 (2 died)	38	2	2·53

Incidence of fatal cases per registered live births :—

1929	0·38 per 1,000
1930	0·29 „ „
1931	0·57 „ „
1932	0·25 „ „
1933	0·16 „ „

TABLE XIII.
AGE AT ONSET.

	Under 2 weeks	2–3 weeks	3–4 weeks	Over 4 weeks
Number of cases	48	13	11	7

Table XIV.

Pemphigus Neonatorum in Domiciliary and Hospital Practice.

Midwives		Doctors		Hospitals and Registered Maternity Homes		Hospital Districts	
Attack	Death	Attack	Death	Attack	Death	Attack	Death
24	—	2	—	42	2	11	—

Of the 79 cases, 73 were nursed by the special nurses. 68 were of a mild type, and the skin condition became normal in from 2 to 3 weeks. In 17 of these cases a slight condition of conjunctivitis was present. Of the more serious cases, 6 recovered in 4 weeks, 2 in 5 weeks, 1 was transferred to hospital, and 2 died.

20 of the above cases occurred in one Home, 14 of which were notified as pemphigus neonatorum, 8 occurred in one month, the onset in each case being within the first 10 days. 18 of the cases recovered completely. 2 died, 1 at 10 and 1 at 11 days.

Summary of Investigations (other than nursing visits) made by the Inspectors of Midwives and Special Maternity Nurses.

	Number of Visits
Maternal deaths	70
Puerperal fever	127
Puerperal pyrexia	97
After-care in cases of puerperal fever and puerperal pyrexia..	331
Still-births	19
After-care in cases of still-birth	102
Investigations into cases of pemphigus neonatorum..	4
Medical records and payments of medical fees	32
	782

Total number of visits made by the staff :—

Inspectors of Midwives	530
Domiciliary Nursing	5,063
Investigations	782
	6,375

OPHTHALMIC SECTION.

The work of the ophthalmic section is carried out by 3 fully-trained nurses with special ophthalmic training, under the supervision of the Inspector of Midwives. They visit and treat, under medical supervision, all cases of eye disease from birth to school age, when those who still have eye defects are transferred to the School Medical Officer.

Cases are referred by—

1. Midwives, under the rules of the Central Midwives Board.
2. Medical Practitioners and hospitals, under the Ophthalmia Neonatorum Notification Order.
3. Medical officers at the Child Welfare Clinics.
4. Health visitors.

During the year 1933, 564 new cases were visited. Of these, 314 were cases of eye disease in older children and 250 cases of ophthalmia neonatorum. The total number of visits paid was 6,743.

Ophthalmia Neonatorum.

143 cases were reported by midwives, by medical record as having advised medical aid for unsatisfactory eye conditions, and 107 were notified by medical practitioners (either private or at the Royal Eye Hospital) as cases of ophthalmia neonatorum.

TABLE A—1933. OPHTHALMIA NEONATORUM AND CONJUNCTIVITIS. HISTORY OF MOTHER.

	Age of Mother							Parity										Labour		Attendant not present at birth	No. of mothers having had previous cases of Ophth. Neon	History of yellow discharge	Legitimacy	
	Under 20	20—	25—	30—	35 and Over	Not ascertained	Total	1	2	3	4	5	6	7	8	9+	Not Ascertained	Normal	Abnormal				Legit.	Illegit.
Notified Cases ...	6	29	31	21	17	3	107	39	31	15	6	4	4	2	1	3	2	98	9	7	8	8	95	12
Not Notified ... .. (Midwives' cases)	—	26	39	41	35	2	143	35	40	15	23	7	8	7	2	4	2	132	11	9	3	—	140	3
Corneal Cases ...	—	1	1	1	1	—	4	1	2	—	—	—	—	1	—	—	—	4	—	1	—	3	4	—

Total cases notified	107
Total cases not notified	143
	250

TABLE B—1933. OPHTHALMIA NEONATORUM.

	Interval in days between birth and onset											Attended by				Where treated			Out-Patients at Other Institutions	No Doctor	Total
	1	2	3	4	5	6	7	8	9	10+	Total	Midwife	Doctor	Midwife and Doctor	Institution	Home	Out-Patients at Royal Eye Hospital	In-Patients at Royal Eye Hospital			
Notified Cases . .	6	3	15	5	3	4	15	16	16	24	107	51	11	6	39	66	23	11	7	—	107
Not notified ... ... (Midwives' cases)	6	11	11	6	4	11	18	22	22	23	143	119	—	10	14	142	—	—	1	1	143

Total cases notified 107
Total cases not notified ... 143

Table C shows the day of onset, the attendant at birth, and the place of treatment.

The greatest number of onsets were on the seventh and ninth days of life, and in over one-half of the cases the first signs of disease appeared after the first five days.

208 cases were treated by private doctors and 34 received treatment at the Royal Eye Hospital.

In 4 cases there was involvment of the cornea—the same number as last year. 3 were admitted to the Royal Eye Hospital and in each of these cases a positive swab was obtained. The 4th case attended the Royal Eye Hospital as an out-patient—no swab was obtainable.

Case 1.—Onset ninth day. Seen by doctor and notified on tenth day. The ophthalmic nurse visited on eleventh day and found left cornea hazy. She reported it to the doctor, who arranged for admission to the Royal Eye Hospital. Discharged eleven days later; cornea then clear. Ophthalmic nurse continued to visit till the eyes were normal—a period of six weeks.

Case 2.—Onset fifth day. Ophthalmic nurse visited sixth day, found right and left cornea hazy. Reported to the doctor, who arranged for admission to the Royal Eye Hospital. The mother removed the child from hospital three months later (against advice) and went to Ashton. The Medical Officer of Health was notified.

Case 3.—Onset twenty-third day. This infant is a twin (the other baby started with a discharging eye on the sixth day). On the twenty-sixth day the ophthalmic nurse visited and found right cornea hazy. She reported it to the doctor, who arranged for the baby to be admitted to the Royal Eye Hospital (previous to the ophthalmic nurse's visit, the treatment had been carried out by the midwife under the doctor's directions). Discharged three weeks later. Right nebula which is now clearing. The mother gave a history of an untreated vaginal discharge.

Case 4.—Onset fifteenth day. Visited by ophthalmic nurse on twenty-second day, who carried out treatment under doctor's supervision till the twenty-seventh day, when she noticed an abrasion on the cornea and reported it to the doctor. He arranged for admission to the Royal Eye Hospital. The mother was unwilling to go in with the baby and he was treated daily at the out-patients' department, the ophthalmic nurse continuing her daily attendance. There is now a faint nebula, which is clearing.

Result.—One case normal, two nebula cornea, one removed from the area.

TABLE C.—RESULTS OF THE 107 CASES OF OPHTHALMIA NEONATORUM AND OF THE 143 OF CONJUNCTIVITIS IN NEWLY-BORN INFANTS.

	Complete recovery	One Eye blind, other normal	One Eye blind, the other damaged	Both Eyes lost	Both Eyes damaged	One Eye damaged	Death before recovery	Removed before recovery
Ophthalmia Neonatorum	90	..	..	..	..	2 Nebula which will clear	2	6
Conjunctivitis	125	..	..	..	..	2 Nebula which will clear	2	3

Of the notified cases 63 cleared under one month, and 24 cleared under three months.

Nine cases of ophthalmia neonatorum and 13 cases of conjunctivitis were carried over to 1934.

TABLE D.—TOTAL NUMBER OF CASES OF OPTHALMIA AND CONJUNCTIVITIS IN NEWLY-BORN INFANTS AND THE PERCENTAGE WITH CORNEAL COMPLICATIONS, 1911-1933.

Year	No. of Cases	Percentage with Corneal complications
1911	525	7·23
1912	667	11·39
1913	573	12·04
1914	681	9·25
1915	642	7·79
1916	620	6·13
1917	539	6·86
1918	567	8·64
1919	698	4·73
1920	974	4·83
*1921	921	2·28
1922	604	2·3
†1923	569	1·7
1924	572	2·0
1925	533	1·3
1926	478	2·7
1927	444	2·7
1928	375	1·0
1929	334	1·7
1930	321	1·8
1931	255	1·1
1932	225	1·8
1933	250	1·6

* 1 per cent. silver nitrate supplied to midwives from July, 1921.

† 7 per cent. Argyrol supplied to midwives to replace silver nitrate from March, 1923.

Eye Diseases in Older Children.

In addition to the cases of ophthalmia neonatorum and conjunctivitis in newly-born infants, the ophthalmic nurses visit and treat, under medical supervision, all cases of eye disease in children brought to their notice, until they have recovered, or, in cases of corneal and congenital defects, keep them under observation until they have reached school age, when they are referred to the School Medical Officer with a report on their condition. Four children were so referred during the year.

During 1933 the staff has visited 314 new cases, and 119 cases carried over from 1932; a total of 433 cases.

	Old Cases Brought forward	New Cases	Carried over
Simple conjunctivitis	25	189	27
Purulent Conjunctivitis	2	25	2
Lacrymal Obstruction	10	68	11
Blepharitis	2	5	2
Corneal Ulcers	—	5	5 (healing)
Nebulæ cornea	40	4	31
Coloboma	5	—	3
Congenital Cataract	25	4	25
Glyoma	1	—	—
Defective Vision	3	—	3
Microphthalmus (one eye)	2	2	4
Retinitis	1	—	1
Staphyloma	1	—	1
Nystagmus	1	—	1
Corneal scar (traumatic)	1	—	1
Keratitis	—	1	1
Congenital anophthalmus	—	1	1
Hordeolum	—	4	1
Phlyctenula	—	2	2
Proptosis	—	1	1
Leucoma	—	1	1
Blind	—	2	2
	119	314	126

126 cases have been carried over into 1934.

All the more serious cases involving the cornea are making satisfactory progress and during the year no loss of sight resulted. The two cases of blindness are both congenital conditions. One child born 18/1/33 is blind from congenital microphthalmus and anophthalmus. The other suffered from congenital cataracts: the right eye became buphthalmic after operation. She was admitted to the Sunshine Home for Blind Babies in December, 1933.

There was a decrease of corneal conditions during the year. Of the five cases of corneal ulcer reported to the department, none occurred after measles. Four have healed, leaving a faint nebula which will probably clear. One is still in hospital.

The six cases of blepharitis were all slight conditions, and responded to treatment.

Of the 189 cases of simple conjunctivitis, 151 were very slight and the eyes were normal within a month.

It is interesting to note that the eye conditions associated with malnutrition are decreasing. The following table gives the figures for the last ten years:—

Year	Blepharitis	Corneal Opacity (found as Ulcer or Nebula)
1924	13	35
1925	37	50
1926	46	64
1927	36	36
1928	11	22
1929	18	22
1930	9	16
1931	8	15
1932	6	18
1933	5	9

Sunshine Home for Blind Babies.

During the year one child was maintained in the Sunshine Home for Blind Babies at Southport, suffering from coloboma of iris and choroid, and one was admitted in December suffering from congenital cataract.

CHILD WELFARE CENTRES.

At the end of 1933 there were 20 municipal infant welfare centres and one voluntary centre in the Holy Name Schoolroom, to which the City supplies the medical officer and the stationery. This centre is otherwise staffed by the Sisters of Charity of the Order of St. Vincent de Paul.

There are at the various centres 99 weekly medical consultations, comprising 66 infant sessions, 4 special birthday sessions, 7 sunlight, 18 ante-natal, and 4 toddlers' sessions, at which an attempt is made to secure only the attendance of children between 2 and 5 years of age.

At the end of the year there were :—

4,792 children under 1 year on the centre register.

3,950 children between 1 and 2 years on the centre register.

5,854 children between 2 and 5 years. on the centre register.

60·68 per cent. of all Manchester children under 1 year attended at least once.

The tables, show the work done at the Child Welfare Centres during the year 1933.

223,249 attendances were made at these sessions :—

109,950 by children under 1 year.
54,749 „ between 1 and 2 years.
33,551 „ „ 2 and 3 „
17,823 „ „ 3 and 4 „
7,176 „ „ 4 and 5 „

The special problems affecting the health of young children are three :—

1. In an urban area the years 1–5 are those in which children become exposed to the great damaging infections—respiratory diseases from simple colds to pneumonia, measles, whooping cough, etc., all of which may do permanent damage.

2. Whereas a young baby can be safely left out of doors in a perambulator in all but the most inclement weather, the young toddler has to be taken out and its exercise supervised.

3. The mixed diet of a toddler requires more care than the simple feeding of infants; at the same time the results of improper feeding are less dramatic; the mother is less anxious, and therefore less likely to attend a centre, especially where the centre is overcrowded,

Toddlers' Sessions.

At four centres a sessions is set apart for children between 2 and 5 years of age. It has not been found possible to transfer all the toddlers attending the centre to these sessions, nor to exclude from them all younger children, partly because mothers who are attending the centre with younger children are reluctant to come more than once a week, and partly because the investigator and the milk clerk are not present at every session.

A weekly examination session is set apart at Newton Heath, Collyhurst, Ancoats, and Openshaw Centres. To the parents in these wards, as their children reach 2 and 3 years of age, a card of invitation is delivered personally by the Health Visitor, who emphasises the need for continued medical supervision, and urges them—if they are unable to obtain it otherwise—to bring their children for examination.

During 1933, 2,383 invitations were sent to 2 year olds, of whom 626 were brought for examination, and 2,460 were sent to 3 year olds, of whom 529 were brought for examination.

Massage and Remedial Exercises.

This work is performed by a staff of 8 full-time masseuses, and, in addition, part-time masseuses for 13 sessions weekly.

Massage treatment is provided at 18 centres, where 48 weekly sessions were held. At 7 centres a weekly class of remedial exercises is held for children from 2 to 5 years, for whom exercises are considered better than massage. The ailments treated are postural defects, rickety deformities, general or local poor muscular tone, and some of the milder birth injuries.

There were 27,427 attendances for massage, and 3,896 for remedial exercises.

Artificial Sunlight.

Eighteen sessions are held weekly at 4 centres, which are equipped with mercury vapour air-cooled lamps for general treatment with ultra-violet radiation. The total number of individuals treated was 1,045, of whom 68 were adults.

The number of treatments given was 21,661, a slightly lower figure than that for 1932, the decrease being due probably to the long period of dry sunny weather that the City experienced in 1933.

Of the 977 children treated, 95 were under 1 year, and these were sent chiefly on account of catarrh, recurrent bronchitis, or as a prophylactic against rickets.

The older children were treated for rickets, colds, debility following severe illnesses, asthma, adenitis, and various nervous disorders.

When the attendance was regular and the full course of treatment completed, results were uniformly good. Of those discharged on completion of treatment, only 36 failed to attend for re-examination.

381 ceased to attend before finishing their treatment, the reason in many cases being the removal of the family to some outlying district.

Twenty-two expectant mothers were treated for minor ailments, several attending till the week before their confinement.

As formerly, cases of rickets and general debility were the largest proportion of those recommended for treatment. The type of rickets now sent is usually in an early stage, advanced cases with marked deformity being much less frequent than formerly.

Dental Clinics.

Dental clinics are held at two of the Child Welfare Centres, and at each clinic two sessions are held weekly: one for mothers and one for children.

A general routine inspection for children has not yet been arranged. Children with suspected or beginning dental caries are referred from the welfare centres to the dental clinic, where preliminary dental treatment is given. The parents then receive regular three- or six-monthly invitations to bring them for further inspection and treatment until they reach the age of 5 years. The welfare centres are notified when these appointments are not kept and a beginning has thus been made in the care of the teeth of young children. Some parents fail to take advantage of the offer of treatment.

At the beginning of the year there were 342 children under 5 in attendance at the dental clinics. 804 new cases were referred for treatment from the welfare centres. 171 failed to attend. 633 new children attended for treatment. 250 were marked off on reaching 5 years of age and 275 because they ceased to attend. 449 names remained on the register at the end of the year, 1,753 attendances were made.

The response to the offer of dental treatment varies in different centres :—

Centre	Number referred	Number failed to attend	Number attended
Abbey Hey	13	8	5
Ancoats	53	17	36
Ardwick	50	11	39
Blackley	29	3	26
Chorlton-upon-Medlock	66	6	60
Collyhurst	109	39	70
Cheetham	21	2	19
Clayton	56	15	41
Chorlton-cum-Hardy	19	2	17
Didsbury	6	2	4
Gorton	25	5	20
Harpurhey	26	4	22
Hulme	34	5	29
Levenshulme	35	5	30
Miles Platting	31	8	23
Newton Heath	58	7	51
Openshaw	63	18	45
Rusholme	55	6	49
Withington	47	7	40
Holy Name	2	1	1
Hart Road	6	—	6
Totals	804	171	633

A session for dental treatment of nursing and expectant mothers and one for children has been held weekly at Rosamond Street and Cheetham Centres. Patients are referred from the welfare centres.

During 1933 538 mothers made 1,202 attendances. 207 others failed to keep any appointment and received no treatment. The condition of the mouths is such that usually only extractions can be done.

Systematic talks on the influence of diet on dental structure and the prevention of caries are given at all the centres and at the dental clinics.

Cookery Classes.

It is recognised that one of the causes of the ill-health of the child under 5 years is an unsuitable diet, and it was considered advisable to provide, at infant welfare centres, classes where mothers could be taught the values of food and its preparation while young children were "minded" at the centres. For attendances, see page 210B.

The classes at Ancoats (two weekly sessions), Newton Heath, Clayton, Rosamond Street, and Hulme, have continued to be well filled.

The class at Ardwick was changed from morning to afternoon, but is still poorly attended.

The Openshaw session was so unsuccessful that it was transferred to Gorton at the beginning of 1933, but the attendances here still remain poor.

The Cookery Instructress reports :—The cookery classes have made steady progress during the past year, especially during the winter session.

A feature of this year is the increase in the number of mothers who listen regularly to the B.B.C. cookery talks. The syllabus was arranged to coincide with some of these talks, resulting in a noticeable increase in interest on the part of the mothers.

There is, therefore, distinct encouragement in the main.

It is a matter of regret that the interest of some mothers in some of the districts has not yet been definitely secured. Those who attend are eager to learn, but it need hardly be stressed that good and attractive and economical preparation of food is a fundamental need in family life generally and is a vitally essential factor in the successful rearing of children.

Voluntary Workers.

During the year 282 voluntary workers gave valuable assistance at the child welfare centres. The total number of attendances of these workers for the year was 10,456, an average of three workers per session.

The department is greatly indebted to the voluntary workers supplied by the Schools for Mothers for the cordial co-operation they give in the work of the centres by entering the new babies, registering the attendances, and charting the heights and weights of the children.

At Ancoats, Hulme, Rosamond Street, and Clayton the Schools for Mothers held sewing classes during the winter and 1,316 attendances were made.

Ante-natal Clinics.

Ante-natal clinics are established at 14 centres, where 18 weekly sessions are held. Bi-weekly sessions are held at Openshaw and Rusholme ; at Higher Ardwick and Hulme they are combined with V.D. treatment for mothers and children. 2,364 new mothers were admitted and 10,706 attendances were made.

In addition to the ante-natal sessions provided at the infant welfare centres, there are municipal ante-natal clinics established at Crumpsall and Withington Hospitals (see Hospitals report, page 107).

Post-natal Clinics.

The after-effects of childbirth continue to give rise to concern and every attempt was made to secure the attendance of mothers for a post-natal examination at one of the 14 ante-natal centres. 525 presented themselves for complete examination at four to six weeks after confinement. The results were as follows :—

RESULTS OF POST-NATAL EXAMINATIONS.

Total number of cases examined	525
Total number of cases completely recovered	180
Number of defects found.	571

Analysis of Defects.

1. General state of health :—	
(i.) Satisfactory	223
(ii.) Hypotonus and backache	128
(iii.) Unsatisfactory, due to—	
(*a*) Pregnancy or labour only	148
(*b*) Old standing disease	72
2. Local pelvic conditions—	
Satisfactory	215
Unsatisfactory, due to :—	
(i.) Retroversion only	63
(ii.) Recent unhealed laceration	32
(iii.) Healed laceration	109
(iv.) Subinvolution	49
(v.) General hypotonus, with retroflexion or prolapse	77
(vi.) Any other condition	50
3. Evidence of renal disease—	
Albuminuria before labour	52
Post-natal examination—	
(i.) No albumen	26
(ii.) Still present	19
(iii.) Not examined	24

At Rusholme the post-natal exercises session, begun in July, 1931, was continued, and during the year 258 attendances were made.

The exercises and massage treatment are carried out by one of the Corporation part-time masseuses.

The purpose of this treatment is to try to restore the mother as far as possible to a satisfactory state after her pregnancy and confinement. The abdominal wall, pelvic floor, and soft tissues are stimulated and their tone restored by massage and exercises. Backache resulting from spinal and sacroiliac strain is also helped by treatment.

The mothers come about a month after the confinement and graduated exercises and massage are begun. After a few weeks the mother can do quite a reasonable course of exercises and her bodily mechanics and general health are improved.

By arrangement with Ancoats Hospital, members of the staff of the Physiotherapy Department have continued to conduct post-natal exercise classes for mothers at the Levenshulme and Withington Centres.

The Superintendent of the Physio-therapy Department of Ancoats Hospital reports :—

> The work in these clinics has been very definitely progressive. Conditions treated are postural backache and muscular weakness arising out of child-birth, intestinal stasis and general lassitude, and a few special conditions.
>
> The patients have been instructed in a system of controlled and rhythmic exercises which they are able to perform at home with occasional supervision.
>
> The Levenshulme Clinic has reached a very high standard of efficiency under the control of Miss Cunliffe and her assistants. Forty-nine patients have been treated and 433 attendances have been made. Of these, 136 are ante-natal, 291 post-natal, and 6 combined.
>
> The excellent results obtained have been made possible by the interest and co-operation of the staff of the clinic and of the patients themselves.
>
> The work of the Withington Clinic has been greatly restricted by the poor attendance of the patients, but a few have made a dozen attendances and these have done well. Eighteen patients have been treated, and 58 attendances have been made. The work has been carried out very conscientiously by Miss Leigh.

Statistics.

Withington Centre :—

1933 .. .. .. 18 cases. 58 attendances.

Levenshulme Centre :—

1933 .. .. .. 49 cases. 433 attendances.

Of these—291 post-natal.
136 ante-natal.
6 combined.

Immunisation against Diphtheria.

At the infant welfare centres immunisation is carried out by the centre doctors, and periodic campaigns are held to stimulate the interest of parents. Now that the school children are immunised at the schools the demand at the infant welfare centres is less, since the school children are not brought there and the younger children are frequently taken with the older ones to be immunised at the schools.

Ailing Children.

Twenty beds for children under 1 year and 10 for children between 1 and 2 years are retained at the Manchester Babies' Hospital (see page 219) and 8 beds in the Babies' Ward at Monsall Hospital (see page 126).

350 beds for children under 5 years are provided at the Booth Hall Hospital.

For some years now the names of children under 2 years of age who have been patients in Booth Hall Hospital have been notified to the Maternity and Child Welfare Department on discharge, and the cases have been visited immediately and followed up by the health visitors. When the transfer of this hospital to the Public Health authority took place in 1930 the lists were extended to include all discharged cases under 5 years of age, and, in addition, brief clinical notes on each case have been given. During 1933 further clinical notes have been sent to this department with reference to children under 5 years who have died in the hospital. These notes are of great assistance to the health visitors and are attached to the child's case sheet as part of the record of its first 5 years. When any of these children are attending an infant welfare centre, copies of the clinical notes are sent to the medical officer of the centre and are attached to the child's centre record.

Remedial Day Nurseries.

Two such nurseries are maintained by the Schools for Mothers, one next door to the Openshaw Centre, and one, the Spence Nursery, in the grounds of the University Settlement at Ancoats. The nurseries are maintained for children between 18 months and 5 years suffering from rickets, malnutrition, and debilitated conditions. Cases for these nurseries are recommended by the centre doctors. The children are retained until they are well or reach 5 years of age.

The Corporation retains 5 beds at each of the nurseries.

Openshaw Day Nursery.

January to December, 1933.

Total number of places for children under 5 years	13
,, ,, whole day attendances	2,188
,, ,, individual children who attended	23
Number of individual children admitted as Corporation cases	16

(The period of stay varied from 1 week to 12 months.)

Spence Day Nursery.

Total number of places for children under 5 years	22
,, ,, whole day attendances	3,894
,, ,, individual children who attended	40
Number of individual children admitted as Corporation cases	16

(The period of stay varied from 1 week to 12 months.)

EXPECTANT MOTHERS REPORT, 1933.

Centre	No. on Register Jan. 1st, 1933	No. of New Cases	Trans-ferred from another Centre	Total	No. still on Register Jan. 1st, 1934	No. of "Term" Births	Still-births included in "Term" Births	No. of Premature Births	Still-births included in Premature Births	No. of Mothers left District before Confine-ment	Trans-ferred to another Centre	No. of Mothers not Pregnant	Total
Ancoats	28	116	1	145	22	103	..	7	2	..	3	10	145
Ardwick	41	209	2	252	54	148	3	11	2	9	4	26	252
Chorlton-upon-Medlock ..	46	182	2	230	62	135	2	11	7	5	..	17	230
Collyhurst	34	123	1	158	30	98	8	12	7	4	..	14	158
Cheetham	38	148	..	186	41	113	4	11	2	11	1	9	186
Clayton	25	131	..	156	31	102	..	13	10	..	..	10	156
Gorton	51	218	2	271	56	177	6	15	2	10	1	12	271
Harpurhey	50	161	1	212	38	126	4	12	4	15	1	20	212
Hulme	20	77	..	97	17	58	2	8	3	6	..	8	97
Levenshulme	52	150	4	206	52	125	..	13	6	4	2	10	206
Newton Heath	37	156	..	193	47	120	2	12	2	1	..	13	193
Openshaw	70	227	..	297	47	190	7	36	7	11	1	12	297
Rusholme	68	246	1	315	75	169	5	11	4	34	3	23	315
Withington	51	220	4	275	69	167	3	14	4	6	2	17	275
Totals	611	2,364	18	2,993	641	1,831	46	186	52	116	18	201	2,993

EXPECTANT MOTHERS REPORT, 1933.

Centre	No. of Normal Births	No. of Abnormal Births	Died	Attended for Post-natal Examination
Ancoats	96	14	—	31
Ardwick	144	15	—	54
Chorlton-upon-Medlock .	121	25	—	63
Collyhurst	90	20	—	13
Cheetham	100	24	1	21
Clayton	90	25	1	18
Gorton	165	27	2	33
Harpurhey	112	26	—	52
Hulme	50	16	—	18
Levenshulme	103	35	—	14
Newton Heath	108	24	—	66
Openshaw	168	58	2 + 1 before confinement	31
Rusholme	153	27	2	60
Withington	159	22	2	51
Totals	1,659	358	11	525

Causes of Deaths of Mothers attending the Ante-natal Clinics during the Year.

Placenta Prævia	2
Eclampsia	1
Pneumonia	2
Heart Failure following Cæsarean Section	1
Pelvic Abscess following Cæsarean Section	1
Acute Toxæmia	1
Pulmonary Embolism	1
Puerperal Septicæmia	1
Asthma and Pneumonia before confinement	1

WELFARE CENTRES, DECEMBER 31ST, 1933.

Centre	On Register at beginning of year			New patients			Transferred from age group	Transferred from other Centres	Transferred to other Centres	Died	Marked off not attending			On Register, January 1st, 1934		
	0—1	1—2	2—5	0—1	1—2	2—5					0—1	1—2	2—5	0—1	1—2	2—5
Abbey Hey	117	87	136	143	24	28	326	30	11	4	20	81	102	117	83	126
Ancoats	291	214	385	331	80	296	819	49	38	30	76	193	463	211	205	*376
Ardwick	442	364	443	509	106	156	1,146	78	61	40	99	274	464	375	297	409
Blackley	124	121	168	224	30	73	443	78	27	10	38	89	161	156	111	192
Cheetham	317	147	275	412	86	99	759	15	32	16	96	113	294	288	218	246
Chorlton-cum-Hardy	178	161	183	215	36	82	512	43	18	7	25	128	184	158	136	211
Clayton	167	128	211	177	48	116	509	15	18	14	22	99	187	132	128	209
Chorlton-upon-Medlock	460	302	405	596	126	236	1,122	23	70	38	99	273	458	399	360	383
Collyhurst	303	246	489	387	98	322	957	17	33	27	94	195	508	251	208	*463
Didsbury	101	73	102	176	30	53	292	26	19	1	10	63	104	141	92	112
Gorton	452	321	450	528	100	177	1,173	47	38	21	65	266	463	376	353	403
Harpurhey	236	189	306	355	61	125	717	18	38	14	33	153	269	262	188	269
Holy Name	32	20	22	39	3	4	75	8	5	4	9	26	20	28	15	16
Hulme	264	181	233	341	56	113	689	16	30	19	55	194	238	226	170	230
Levenshulme	253	204	284	384	39	94	747	33	30	11	49	145	207	263	220	318
Miles Platting	130	101	153	162	52	68	374	24	19	12	44	98	155	106	89	138
Newton Heath	365	267	527	399	82	258	1,072	42	44	15	74	211	530	266	260	*454
Openshaw	344	288	465	436	90	290	1,015	32	52	18	65	212	510	309	262	*429
Rusholme	357	280	398	560	109	178	1,036	70	66	22	99	267	376	370	253	423
Withington	284	252	320	401	60	156	835	77	30	12	59	185	280	301	245	374
Wilbraham	65	60	84	84	19	38	212	5	7	2	15	38	85	57	57	73
Totals	5,282	4,006	6,039	6,859	1.335	2,962	14,830	746	686	337	1,146	3,303	6,058	4,792	3,950	5,854
COMPARATIVE TABLES FOR PREVIOUS TWO YEARS—																
1932	5.300	4,137	5,413	7,115	1,555	2,881	12,325	440	620	368	1,630	3,403	4,582	5,282	4,006	6,039
1931	5.318	3,888	4,446	7,398	1.389	2,527	12,593	542	608	389	1,426	3,235	4.223	5,300	4,137	5,413

* Birthday Clinics.

COMPARISON OF REGISTERED BIRTHS AND NEW CASES ATTENDING THE CENTRES DURING 1933.

Ward	Registered Births	New cases under 1 year at Centres	Percentage
All Saints	407	233	57·2
Ardwick	414	264	63·8
Beswick	444	218	49·1
Blackley	264	182	68·9
Bradford	363	266	73·2
Cheetham	317	216	68·1
Chorlton-cum-Hardy	375	329	87·7
Collegiate Church	250	141	56·4
Collyhurst	428	231	53·9
Crumpsall	231	135	58·4
Didsbury	355	114	32·1
Exchange	2	—	—
Gorton North	276	192	69·5
,, South	339	219	64·6
Harpurhey	329	218	66·2
Levenshulme	228	145	63·6
Longsight	258	171	66·2
Medlock Street	508	394	77·5
Miles Platting	422	240	56·8
Moston	332	170	51·2
Moss Side East	360	185	51·3
,, West	272	227	83·4
New Cross	499	281	56·3
Newton Heath	282	163	57·8
Openshaw	276	150	54·3
Oxford	14	—	—
Rusholme	246	143	58·1
St. Ann's	—	—	—
St. Clement's	108	63	58·3
St. George's	458	267	58·3
St. John's	71	30	42·2
St. Luke's	458	316	69·0
St. Mark's	344	206	59·8
St. Michael's	374	175	46·7
Withington	594	362	60·9
Wythenshawe	218	100	45·8
Totals	11,116	6,746	60·7

Milk was supplied to necessitous nursing and expectant mothers and to children under 5 years who were attending a centre, and for whom the doctor at the centre certified that milk was necessary on grounds of health. For children over 3 years old a certificate was required, stating the disease from which the child was suffering.

Both dried and fresh milk were used. The dried milk was bought in bulk from the manufacturers and distributed through the centres. The fresh milk was delivered by the retailers; usually one retailer for each centre. The selection was made from a list of those who had satisfactory pasteurising plant. Only pasteurised milk was ordered.

The milk was granted to applicants, after investigation, either "free" or "assisted" (half-price), according to income.

MATERNITY BEDS.

The work of the maternity beds is referred to in the hospitals reports, 6 maternity beds (2 in St. Mary's Hospital for first and abnormal cases, 2 in Denison House, and 2 in Crossley Hospital).

During the year 1933, 149 applications were received. 21 of these were cancelled and one was not accepted as the applicant resided out of the City area. Of the remaining 127 applicants 91 were confined during the year.

HOME HELPS.

The arrangements for the supply of Home Helps in Manchester are made by the Manchester Home Helps Society.

The Society is subsidised by the Public Health Committee.

During the year 1933, 14 Home Helps attended 107 cases for a total of 222 weeks, this being an average of 2·07 weeks per case.

The amount received in fees was £131 17s. 6d.

The Helps are remunerated at the rate of 30s. per week, plus travelling expenses and insurance. They receive no retaining fee when unemployed.

Fifteen free Home Helps were granted by the Public Health Committee. These cases extended over a period of 32 weeks. Two free Home Helps were granted by the Society itself. Three cases of illness (not confinements) were dealt with at a fee of 35s. per week.

The remainder of the cases dealt with by the Society paid the costs of the Home Helps to the extent shown in the following table :—

Cases	No. of Weeks Attended	Rate per Week	Amounts Paid by Patients
		s. d.	£ s. d.
1	2	1 0	0 2 0
1	2	1 6	0 3 0
6	13	2 6	1 12 6
1	2	3 0	0 6 0
1	3	3 4	0 10 0
7	17	5 0	4 5 0
3	7	6 0	2 2 0
5	9	7 6	3 7 6
2	4	8 0	1 12 0
17	34	10 0	17 0 0
1	2	10 6	1 1 0
1	2	12 0	1 4 0
1	2	12 6	1 5 0
14	32	15 0	24 0 0
2	4	17 6	3 10 0
8	15½	20 0	15 10 0
16	31	30 0	46 10 0
3	4½	35 0	7 17 6
90	186		£131 17 6

Applications are made either through the Infant Welfare Centres or direct to the Secretary of the Home Helps Society. All applications are investigated by officers of the Maternity and Child Welfare Department. If not suitable for a free Home Help, in accordance with a scale applicable to grants of milk under the Child Welfare Scheme, the information is passed on to the Secretary of the Society, who assesses payment.

SUMMARY OF WORK OF *INVESTIGATORS FOR 1933.

No. of visits in connection with Milk Investigations ..	New cases ..	35	13
	Reinvestigations	98	
Milk investigations at Centres	New cases ..	3,927	23,84
	Reinvestigations	19,922	
No. of visits *re* Day Nursery Investigations	New cases ..	9	6
	Reinvestigations	54	
No. of Day Nursery Investigations at Centres	New cases ..	26	4
	Reinvestigations	19	
No. of visits *re* Medical Fees	New cases ..	1,622	2,09
No. of visits re *re* Medical Fee Accounts not paid	Reinvestigations	462	
No. of Medical Fee Investigations at Centres..	New cases ..	8	
Investigation visits *re* Home Helps	New cases ..	26	14
Investigation at Centres *re* Home Helps	New cases ..	114	
Investigation visits *re* Maternity Beds	New cases ..	14	18
	Reinvestigations	30	
Investigation at Centres *re* Maternity Beds	New cases ..	141	
	Total		26,50

Centre Work :	Milk Clerk's duties	38 days
	Office Work—Clerical duties ..	100 ,,
	Total	138 ,,

---

* These officers make enquiries into the financial resources and general conditions of the families to whom help has been given under the Maternity and Child Welfare Acts and Regulations.

PROVISION OF MILK FREE OR AT REDUCED COST DURING THE YEAR 1933, COMPARED WITH THE YEAR 1932.

STATEMENT SHOWING NUMBER OF CASES RECEIVING MILK, AMOUNT SUPPLIED, COST, AND MODE OF DISTRIBUTION.

			70-72, Rosamond St. West, C.-on-M.	1, Manipur St., Openshaw	153, Cheetham Hill Road	135, Pollard St., Ancoats	93, Hamilton Street, Collyhurst	230, Hyde Road, West Gorton	42, Lower Moss Lane, Hulme	45, Higher Ardwick	Jubilee School, Conran Street, Harpurhey	St. George's School, Abbey Hey Lane	686, Oldham Rd., Newton Heath	Elm Street, Miles Platting	St. Peter's School, Levenshulme	Welsh Church, Moss Lane East	26, Clayton Street, Clayton	U.M. School, Market Street, Blackley	Baptist School, Chorlton-cum-Hardy	25, Heaton Road, Withington	Community Hall, Wilbraham Estate	Liberal Club, Barlow Moor Rd., Didsbury	Totals
Number of New Cases put on Milk	Fresh Milk ..	1933.. ..	104	250	114	238	210	169	110	127	64	46	89	100	85	200	89	20	24	107	22	40	2,208
		1932.. ..	158	284	157	274	289	243	187	130	101	42	144	133	52	188	77	19	28	102	21	...	2,629
	Dried Milk ..	1933.. ..	242	59	76	89	109	146	84	218	87	4	53	47	35	97	48	55	26	25	..	7	1,507
		1932.. ..	273	86	46	100	117	177	76	245	73	12	62	28	47	50	42	28	37	16	4	...	1,519
Attendances of persons for Milk	Fresh Milk ..	1933.. ..	3,691	7,271	3,276	5,343	7,038	4,644	3,271	4,716	1,513	2,036	3,019	2,545	2,091	6,131	3,239	404	729	3,797	1,081	789	66,624
		1932.. ..	4,834	6,259	3,856	6,260	7,507	4,374	3,549	4,411	1,917	1,802	2,540	2,335	1,434	6,190	3,220	330	666	3,401	925	.	65,810
	Dried Milk ..	1933.. ..	8,158	3,983	2,057	2,684	4,749	6,923	3,284	7,930	3,147	271	2,042	1,126	1,735	2,054	2,097	1,063	1,094	549	186	148	55,280
		1932.. ..	7,080	3,581	1,679	3,138	4,398	5,504	3,069	7,797	2,509	748	1,161	884	1,545	1,244	1,546	704	852	663	172		48,274
Amount of Milk supplied (pints or lbs.)	Fresh Milk ..	1933.. ..	26,453	51,597	23,192	38,240	49,405	32,550	23,191	33,068	10,941	14,302	21,133	17,835	14,651	42,905	22,674	2,859	5,124	27,246	7,748	5,736	470,850
		1932.. ..	34,866	44,696	28,052	43,820	52,587	28,764	25,454	31,061	13,664	12,635	17,787	16,438	10,156	43,618	22,530	2,346	4,662	23,924	6.710	..	463.770
	Dried Milk ..	1933.. ..	9,131	4,766	2,441	3,216	5,218	8,039	3,825	8,787	3,557	280	2,440	1,320	2,036	2,364	2,392	1,205	1,216	671	236	148	63,288
		1932.. ..	6,886	4,371	1,943	3,666	4,859	6,677	4,050	8,787	2,801	781	1,331	1,027	1,793	1,513	1,814	787	1.382	825	198	...	55,491
Total Cost to Corporation	Fresh Milk ..	1933.. ..	£ s. d. 266 0 2	£ s. d. 505 4 9	£ s. d. 236 1 6	£ s. d. 363 6 3	£ s. d. 474 5 0	£ s. d. 278 11 2	£ s. d. 231 2 8	£ s. d. 297 13 10	£ s. d. 90 3 5	£ s. d. 122 16 8	£ s. d. 185 7 5	£ s. d. 165 19 11	£ s. d. 124 4 2	£ s. d. 407 15 1	£ s. d. 236 11 9	£ s. d. 29 8 10	£ s. d. 47 4 0	£ s. d. 253 19 9	£ s. d. 73 13 6	£ s d. 57 18 2	£ s. d 4,447 8 0
		1932.. ..	315 10 1	392 6 6	257 18 4	377 6 9	473 15 1	256 7 8	229 1 0	263 15 0	126 17 2	102 0 8	137 18 9	134 6 2	76 10 11	373 15 10	204 0 0	22 3 5	41 6 2	208 8 11	58 18 11		4,052 7 4
	Dried Milk ..	1933.. ..	425 19 3	210 0 0	116 18 7	127 4 10	252 4 2	339 7 8	193 11 4	353 16 5	141 12 11	11 10 11	95 4 8	54 5 8	81 18 2	106 9 10	99 18 11	54 19 5	56 19 3	29 6 0	10 17 6	7 18 6	2,770 4 0
		1932.. ..	364 10 7	191 4 11	90 19 11	151 9 5	229 7 5	291 2 3	186 4 11	373 7 6	138 6 9	30 17 3	55 1 2	46 8 4	74 9 7	80 13 2	83 15 6	38 5 10	47 17 0	40 11 7	9 8 8	.	2,524 1 9
Total	Fresh and Dried Milk ..	1933.. ..	691 19 5	715 4 9	353 0 1	490 11 1	726 9 2	617 18 10	424 14 0	651 10 3	231 16 4	134 7 7	280 12 1	220 5 7	206 2 4	514 4 11	336 10 8	84 8 3	104 3 3	283 5 9	84 11 0	65 16 8	7,217 12 0
		1932.. ..	680 0 8	583 11 5	348 18 3	528 16 2	703 2 6	547 9 11	415 5 11	637 2 6	265 3 11	132 17 11	192 19 11	180 14 6	151 0 6	454 9 0	287 15 6	60 9 3	89 3 2	249 0 6	68 7 7	..	6,576 9 1

The grants for milk are renewed weekly. The average number (mothers and children) receiving milk weekly during 1933, is 2,344.

STATEMENT OF WORK DONE AT THE CHILD WELFARE CENTRES DURING THE YEAR 1933.

	Year	Chorlton-upon-Medlock	Openshaw	Ancoats	Collyhurst	West Gorton	Cheetham	Hulme	Ardwick	Abbey Hey	Newton Heath	Harpurhey	Elm Street	Holy Name	Rusholme	Levenshulme	Clayton	Didsbury	Withington	Chorlton	Blackley	Hart Road	Totals
Consultations	1933	6,684	6.368	4.904	5,398	6,456	3,868	3,702	5,331	2,138	5,355	5,163	2,069	476	5,174	4,695	3,452	1,168	5,249	2,090	2,262	921	82,923
	1932	6,658	6,572	4,871	5,889	7,229	4,141	3,728	6,819	2,436	5,786	4,388	2,090	581	5,184	4,995	3,302	1,135	4,065	2,352	1,816	1,066	85,103
Babies Weighed only ..	1933	11,462	7.782	7,360	9,113	9,847	6,569	5,035	12,725	2,614	8,996	7,903	2,871	569	11.967	8,820	4,211	2,818	8,673	4,998	3,959	2,034	140,326
	1932	11,036	8,090	7,763	9,319	9,225	7,022	5,838	12,829	2,450	8,259	7,397	2,760	573	9,303	7,198	4,259	2,169	7,623	4,694	3,064	1,698	132.569
Total attendances	1933	18,146	14,150	12,264	14,511	16,303	10,437	8,737	18,056	4,752	14,351	13,066	4,940	1,045	17,141	13,515	7,663	3,986	13,922	7,088	6,221	2,955	223,249
	1932	17,694	14,662	12,634	15,208	16,454	11,163	9,566	19,648	4,886	14,045	11,785	4,850	1,154	14,487	12,193	7,561	3,304	11,688	7,046	4,830	2,764	217,672
Individuals who attended Centres	1933	1,699	1,511	1,242	1,393	1,621	1,087	931	1,584	438	1,452	1,074	541	97	1,561	1,068	718	467	1,248	723	658	274	21,387
	1932	1,630	1,487	1,334	1,507	1,608	1,139	954	1,703	471	1,489	989	544	117	1,456	993	721	388	1,140	651	549	297	21,167
Number of Attendances for Massage	1933	1,966	2,315	1,849	2,682	1,324	1,841	1,311	1,840	944	1,815	1,154	995	..	2,040	1,423	1,634	..	1,052	620	622	..	27,427
	1932	1,967	2,312	1,818	2,388	1,458	1,893	1,268	2,051	671	1,964	1,213	736	..	1,874	1,213	1,435	..	820	619	630	..	26.330
Number of Attendances for Remedial Exercises ..	1933	.. 415	.. ..	.. ..	.. ..	.. ..	.. 398	.. ..	.. ..	.. 367	.. ..	.. ..	.. ..	.. ..	1,115 Children 258 Mothers	648 Children 433 Mothers	422 Children 1 Mother	.. ..	531 Children 58 Mothers	.. ..	.. ..	.. ..	3,896 Children 750 Mothers
	1932	.. 379	.. ..	.. ..	.. ..	.. ..	.. 493	.. ..	.. ..	.. 395	.. ..	.. ..	.. ..	.. ..	1,044 Children 306 Mothers	488 Children 182 Mothers	375 Children 10 Mothers	.. ..	317 Children * 5 Mothers	.. ..	.. ..	.. ..	3,491 Children 548 Mothers
Number of Attendances for Sunlight	1933	6,887	..	..	..	..	3,700	..	6,798	..	4,276	..	..	..	..	..	..	..	..	..	..	..	21,661
	1932	7,140	..	..	..	..	3,850	..	7,254	..	4,742	..	..	..	..	..	..	..	..	..	..	..	22,986
Number of Attendances at Cookery Classes	1933	599	Transferred to Gorton	713	..	206	..	323	226	..	394	..	..	..	..	..	448	..	..	..	..	..	2,909
	1932	378	101	740	..	..	..	284	220	..	489	..	..	..	..	..	398	..	..	..	..	..	2,610
Number of Attendances at Ante-natal Clinics	1933	743 A.N. 168 P.N.	985 A.N. 59 P.N.	480 A.N. 45 P.N.	542 A.N. 22 P.N.	939 A.N. 52 P.N.	639 A.N. 27 P.N.	440 A.N. 50 P.N.	794 A.N. 66 P.N.	.. ..	848 A.N. 83 P.N.	819 A.N. 93 P.N.	.. ..	.. ..	1,010 A.N. 104 P.N.	716 A.N. 19 P.N.	625 A.N. 12 P.N.	.. ..	1,126 A.N. 81 P.N.	.. ..	.. ..	.. .	10,706 A.N. 881 P.N.
	1932	840 A.N. 78 P.N.	1,172 A.N. 77 P.N.	526 A.N. 38 P.N.	682 A.N. 6 P.N.	794 A.N. 34 P.N.	688 A.N. 28 P.N.	364 A.N. 79 P.N.	828 A.N. 80 P.N.	.. ..	907 A.N. 63 P.N.	644 A.N. 61 P.N.	.. ..	.. ..	1,073 A.N. 145 P.N.	607 A.N. 79 P.N.	585 A.N. 33 P.N.	.. ..	588 A.N. 30 P.N.	.. ..	. .	 .	10.298 A.N. 831 P.N.
Number of Attendances at V.D. Clinics	1933	..	..	..	..	..	..	569	905	..	..	..	..	..	..	..	..	..	..	..	..	..	1,474
	1932	..	..	..	..	..	..	576	763	..		..	..	..	..	..	..	..	..	..	.	..	1,339
Number of Attendances at Dental Clinics	1933	769 Mothers 990 Children	.. ..	.. ..	.. ..	.. ..	433 Mothers 763 Children	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. .	.. ..	.. .	.. ..	.. ..	.. ..	.. ..	.. ..	1.202 Mothers 1,753 Children
	1932	764 Mothers 865 Children	.. ..	.. ..	.. ..	.. ..	550 Mothers 650 Children	.. ..	.. ..	.. ..	.	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. .	1,314 Mothers 1,515 Children

* From November 4th, 1933.

INFANT LIFE PROTECTION.

Children Acts, 1908—1933.

Children Nursed for Hire or Reward during the Year.

Number of foster-mothers on the register at the beginning of the year		202
Number of foster-mothers on the register at the end of the year		223
Number of children on the register at the beginning of the year	218	
,, ,, placed on the register during the year	236	
		454
,, ,, who ceased, during the year, to come under the provisions of this Act		212
,, ,, remaining on the books at the end of the year		242

Details as to Number of Children who ceased, during the Year, to come under the Provisions of the Children Acts, 1908—1933.

Returned to parents or relatives	109
Attained the age of 9 years	16
Adopted without payment	24
Sent to special homes, etc.	20
Exemptions (receiving boarding-out allowance)	2
Admitted to hospitals	22
Removed to other districts	18
Deaths	1
Total	212

Licences Granted.

Licence for one child	77
,, ,, two children	5
,, ,, six children	1
,, ,, six months	1
,, ,, three months	17
,, ,, two months	1
,, ,, one month	2
	104
Licences refused	12
Withdrawals	4
Not renewed	4
Cautions	14

Adoptions.

By foster-mothers	17
Other persons	7
	24

The majority of the nurse-children are illegitimate. Of the 236 new cases taken on the books in the last twelve months, 40 were legitimate.

The number of visits paid by the Infant Life Protection Visitor to nurse-children during the year was 854. The visits paid by Health Visitors in connection with this work numbered 919.

During the year, 55 children were removed—12 by the Committee on account of the homes being unsatisfactory, and 43 by their mothers to other foster mothers.

There has been one death amongst the children during the year while actually in charge of the foster mother. Twenty-one nurse-children were admitted to hospital, 4 of whom died.

Four children were deserted by their mothers and admitted to the Withington Hospital Nursery. Two are still in the Withington Hospital Nursery, one at present is at Booth Hall Hospital, and the fourth was admitted to Monsall Hospital in October, and discharged in November to his mother in London.

The majority of foster-mothers in Manchester undertake the care of a child for 12s. 6d. a week, a few charge 15s., a small proportion 10s., and a very small number from 2s. to 10s. a week.

Municipal Foster-Mothers.

In 1919 the Committee accepted the endowment of the Cheetham Institute, for children deprived of the care of one or both of their parents, and in return undertook to provide foster-mothers for such children.

Since April, 1932, foster-mothers receive 15s. weekly for each child ; for this they undertake to clothe, feed, and care for the child. It is also a condition that the foster-children should be taken regularly to infant welfare centres.

At the beginning of the year there were 6 foster-mothers on the register, and in December, 1933, there were 11. During the year, 19 children have been helped by the municipal grant ; 15 children have actually been placed on the register during 1933.

The grant has been chiefly spent in maintaining children of ill mothers or of widowers, who could not make any suitable arrangement for the care of their child. The period of help given to each child varies, but no child is helped after the age of 5 years. Usually permanent suitable arrangements are made before the child attains the age of 5 years.

NURSING HOMES REGISTRATION ACT, 1927.

There were 38 registered nursing homes in Manchester at the beginning of 1933. 11 were registered for maternity patients ; 8 for medical patients ; 8 for maternity, medical, and surgical ; 4 for maternity and surgical patients ; 3 for maternity and medical patients ; 3 for surgical patients ; and 1 for medical and surgical patients.

During the year 1933, 4 applications for registration were received ; 2 were granted, and 2 were withdrawn. In connection with these homes, 6 visits were paid.

Seven homes were given up—

One owing to death of keeper.
Four ,, removal from district.
Two ,, removal to new premises which have been registered.

One new certificate of registration was issued owing to increase in number of beds.

Eighteen visits were paid to homes already registered, and one visit to premises suspected of being used as a nursing home, but which did not come within the meaning of the Act.

The total new registrations for 1933 were two, and the total number of visits paid 25.

EXEMPTION FROM REGISTRATION OF VOLUNTARY HOSPITALS.

During 1933, 16 applications were received for exemption under section 6 of the Nursing Homes Registration Act, 1927; 15 of these have been granted; one is still under the consideration of the Committee.

SUMMARY OF WORK FOR THE YEAR 1933.

No. of applications for registration		Maternity	1
		Maternity and others	—
		Others	3
No. of homes registered		Maternity	—
		Maternity and others	—
		Others	2
No. of Orders made	Refusing	Maternity	—
		Maternity and Others	—
		Others	—
	Cancelling	Maternity	—
		Maternity and others	—
		Others	—
No. of applications for exemption from registration		Maternity	—
		Maternity and others	2
		Others	14
No. of cases in which exemption has been—	Granted	Maternity	—
		Maternity and others	2
		Others	13
	Withdrawn	Maternity	—
		Maternity and others	—
		Others	—
	Refused	Maternity	—
		Maternity and others	—
		Others	—

STATEMENT OF WORK DONE BY THE HEALTH VISITORS.

Staff.

The only change in staff which, since the end of 1931, has consisted of a superintendent, an assistant superintendent, sixty full-time health visitors, a cleansing nurse, and eight clerks, was the appointment, in October, of four student health visitors, for a period of twelve months, in connection with the training scheme for health visitors.

Notification of Births Act.

The total number of notifications received under the Notification of Births Act was 12,633, of which 7,709 were from doctors, 4,868 from midwives, and 56 from parents. 11,940 notifications referred to live births and 693 to still-births.

In the preceding year 13,114 notifications were received.

The total registered births for the city during 1933 numbered 11,698, of which 11,116 were live births and 582 still-births.

The actual number of new live births allocated to the health visitors for visiting during the year was 10,938, or 98·4 per cent. of the total live registered births.

The place in family amongst the 10,938 births which represent the 98·4 per cent. of the total births of the city, which were allocated to the health visitors for visiting, has again been considered in detail, and the result is seen in the following table :—

Year's Births arranged to show Place in Family.

Place in family	Number of births	Per cent.
1st	3,661	34·8
2nd	2,627	24·97
3rd	1,451	13·8
4th	896	8·52
5th	614	5·84
6th	422	4·01
7th	287	2·73
8th	211	2·00
9th	141	1·34
10th	93	·88
11th	51	·48
12th	30	·29
13th	21	·2
14th	9	·085
15th	5	·047
16th	1	·009
Total	10,520	100·00

"Found" Children.

In addition to the above births, the health visitors also visited 894 other children for the first time. They belonged to families who removed into Manchester during the year. The year of their birth is given below :—

260	children	born in	1933
271	,,	,,	1932
178	,,	,,	1931
139	,,	,,	1930
46	,,	,,	1929
894			

Deaths.

The age group classification of deaths occurring amongst children under five years of age is :—

833	deaths	of children	under one year of age.
183	,,	,,	1 to 2 years of age.
64	,,	,,	2 to 3 ,, ,,
64	,,	,,	3 to 4 ,, ,,
61	,,	,,	4 to 5 ,, ,,

The subjoined table shows the distribution of deaths according to age for the children under one year :—

Died under 1 day	Died 1 to 7 days	Died 1 week to 4 weeks	Died 1 month to 3 months	Died 3 months to 6 months	Died 6 months to 9 months	Died 9 months to 12 months
139	134	109	158	131	77	85

Table 3 shows the classification of these deaths in wards and according to the principal causes of death. Tables 4 and 5 show a similar classification for the age groups 1 to 2 years and 2 to 5 years.

The following table, Table A, gives mortality rates for the past ten years amongst children aged one to five years, based upon the number of live births for the year.

As was mentioned in last year's report, the curves for infant mortality and for the mortality amongst these young children show approximate similarity, which is to be expected, as both infancy and the early years of childhood are affected, to a considerable extent, by the same groups of diseases. The table also demonstrates clearly (when compared with the epidemic records) the high peaks of mortality in the one to five year period during years of epidemic of severe type. The mortality rates for measles and whooping cough have also been included as making the survey more complete.

TABLE A.

YEAR	Infantile mortality rate	Mortality rate 1—2 Group	Mortality rate, 2—5 Group	Mortality rate, 1—5 Group	Total Cases of Measles		Total Cases of Whooping Cough	
					Cases	Deaths fatality rate per cent.	Cases	Deaths fatality rate per cent.
1924 ..	100	..	..	73·8	18,349	2·01	1,706	6·79
1925 ..	96	..	..	56·7	7,941	1·62	3,333	6·18
1926 ..	87	..	..	47·2	10,953	1·42	2,094	2·91
1927 ..	86	28·4	22·6	55·01	13,987	1·17	2,244	5·52
1928 ..	91	27·7	18·1 *	44·2	7.141	1·72	3,189	2·79
1929 ..	97	29·6	21·8	53·6	9.512	·63	4,037	5·44
1930 ..	79	18·5	15·5	34·08	10,738	1·35	1,388	2·66
1931 ..	84	22·7	18·2	41·06	7,771	·83	3,150	2·73
1932 ..	85	22·1	20·3	42·49	12,238	·99	2,280	3·50
1933 ..	75	16·4	17·003	33·46	6,350	·75	2,230	2·107

* Transferable deaths not included for these years.

Still-births.

The health visitors investigated 471 still-births occurring in the practice of doctors and midwives and in the various city hospitals.

Ante-natal Care.

During the year, in the course of their routine visits, the health visitors saw and advised 1,778 expectant mothers.

In addition, 869 special visits were paid at the end of a period of six months to homes where a still-birth or neo-natal death had occurred, with a view to ascertaining whether help was needed in a further pregnancy. As the result of these visits 219 expectant mothers were brought to our notice. These ante-natal cases were revisited regularly at intervals of one month, and the health visitors paid 507 visits to these mothers, many of whom also attended the corporation ante-natal clinics, held at the infant welfare centres and at Withington and Crumpsall hospitals.

Summer Diarrhœa.

From July 15th to September 30th 78 cases of summer diarrhœa were visited. Of these, 21 occurred during the last two weeks in July, 27 during the month of August, and 30 during the month of September. These figures are lower than those for the preceding year, when 104 cases were visited. Medical attention was obtained in 60 instances, and 19 children were nursed in hospital.

The details and distribution of these cases are shown in table *B* which immediately follows :—

Table B.

Summer Diarrhœa. Cases Visited by the Health Visitors in 1933 (Children under 5 Years) compared with those Visited during the Four preceding Years.

	Year				
	1929	1930	1931	1932	1933
Total number of cases visited	183	149	69	104	78
Number of cases occurring in—					
July (15th–31st)	48	33	15	33	21
August	61	39	36	43	27
September	74	77	18	28	30
Cases in Wards.					
All Saints	8	5	. .	. .	5
Ardwick	6	12	8	4	3
Beswick	10	7	4	2	3
Blackley	2	1	1	5	3
Bradford	11	14	5	14	3
Collegiate	. .	. .	. .	. .	2
Collyhurst	10	16	2	7	3
Cheetham	. .	. .	1	1	7
Crumpsall	. .	. .	. .	. .	1
Gorton North	. .	7	4	3	. .
Gorton South	4	8	2	10	7
Harpurhey	7	3	. .	2	. .
Levenshulme	3	. .	1	. .	. .
Longsight	1	1	. .	. .	. .
Medlock Street	18	16	8	3	4
Miles Platting	8	7	3	3	3
Moston	5	. .	. .	3	. .
Moss Side East	. .	3	. .	2	1
Moss Side West	4	2	. .	. .	3
New Cross	13	6	3	11	4
Newton Heath	6	3	2	6	3
Openshaw	3	2	3	2	1
Rusholme	15	2	4	3	7
St. Clement's	4	7	2	1	. .
St. George's	16	6	7	5	1
St. John's	10	1	. .	3	1
St. Luke's	4	3	1	3	3
St. Mark's	4	. .	2	1	2
St. Michael's	7	9	3	3	4
Withington, Didsbury, and Chorlton-cum-Hardy	2	6	3	7	1
Wythenshawe	. .	. .	. .	. .	3
Number affected under 1 year of age	102	79	43	58	38
Method of feeding at onset of illness—					
Breast	17	22	12	13	11
Mixed	14	9	5	10	9
Hand	71	48	26	35	18
Deaths—					
Total number	32	29	18	16	8
Number under 1 year of age	25	22	18	14	6
Number under 4 months of age	12	11	11	7	3

Rickets.

One of the most satisfactory extensions of our work has been the provision of residential treatment at Swinton House (controlled by the Education Committee) for cases of severe rickets in children under five years of age.

During 1933, a dozen children were admitted through our representations to the Education Department. These children were suffering from severe rickety deformity as the result of failure on the part of the parents to obtain, or follow up treatment in the earlier stages.

Some of the admissions were not effected without considerable opposition on the part of the parents, but the severity of the deformity was so great that in the interests of the children, perseverance was necessary, even occasionally to the extent of enlisting the assistance of the N.S.P.C.C.

The children actually admitted do not by any means represent all who would have benefited by residential treatment. In some cases, we reluctantly agreed to a probationary period of compromise, supervised by the N.S.P.C.C., during which the parents fulfilled a promise to attend regularly the out-patients, department of one or other of the hospitals in the City and carry out whatever treatment was advised.

The ages of the twelve children admitted to Swinton House were between three and five years, and they came from the following districts :—

New Cross	4	Withington ..	1
Bradford	2	Crumpsall ..	1
St. Luke's	2	St. Michael's ..	1
Moss Side East	1		

Pre-School Histories.

The reports of school medical departments not infrequently refer to the large proportion of children who commence their school life in an unsatisfactory state of health.

The records of these children from birth to the completion of their pre-school age, when fully kept, could often throw an interesting and useful light on some of these unsatisfactory conditions.

For the past fifteen years an attempt to do something of this kind has been made by this section, but it would require a considerable addition to the present staff to permit of all the pre-school histories being sent to the school medical department. We have effected a compromise by preparing summaries of the first five years of life, in markedly unsatisfactory cases. These are divided roughly into five groups, namely :—

GROUP I.—*Special Histories.*

Children with congenital defects, or in whom serious illness, or other unsatisfactory physical conditions have been present.

GROUP II.—*Unsatisfactory Children.*

Children who at the completion of their fifth year have some definite unsatisfactory physical condition which we have reason to believe has not yet come to the notice of the school medical department.

GROUP III.

Children suffering from tuberculous affections, or query tuberculosis, or who belong to a family with a history of tuberculosis.

GROUP IV.

Children with a personal history of rheumatism, or chorea, or who belong to a family having a history of either.

GROUP V.

Children who though apparently healthy in themselves, belong to a family with a record of ill health.

It was considered advisable to send on summaries referring to 1,024 such children during the year. In addition lists of children who have received diphtheria immunisation treatment are also sent to the school medical department.

ADMISSIONS TO HOSPITAL OF CHILDREN UNDER 5 YEARS OF AGE, AS RECOMMENDED FROM THE INFANT WELFARE CENTRES OF THE CITY.

The thirty beds retained by the Corporation at the Manchester Babies' Hospital—twenty cots for children under 1 year and ten beds for children 1 to 3 years—and the eight beds in the Babies' Ward at Monsall Hospital for children 1 to 4 years have all been fully occupied throughout the year and there has always been a waiting list.

Recommendations for these beds are received from the medical officers of the infant welfare centres and arrangements are then made from this department for the admission to hospital of the children recommended. In addition to the above, commencing in April, 1933, a number of recommendations for the admission of children to Booth Hall Hospital were also received.

The following table shows the number of children recommended for each hospital and the number who were actually admitted :—

Hospital		Number recommended	Number admitted
Manchester Babies' Hospital	Cots	125	112
	Rickets beds	67	63
Babies' Ward, Monsall Hospital		23	20
Booth Hall Hospital		61	54
Totals		276	249

An analysis of the reasons which prevented the admission of the 27 other children recommended, but not admitted, is given below :—

	Children
Admitted to private cots	5
„ „ other hospitals	5
Died before a bed was available	1
Improved whilst on waiting list	9
Parents permission withheld	6
Removed from the City	1
Total	27

The various diagnoses on admission were :—

Dyspepsia	29	Convulsions	2
Marasmus	18	Anæmia	2
Prematurity	15	Gastritis	1
Atrophy	14	Cervical Adenitis	1
Rickets	10	Dentition	1
Respiratory Trouble	6	Eczema	1
Gastro-Enteritis	5	Hypotrophy	1
Debility	3	Circumcision	1
Mongolism, ? M.D.	2		
		Total	112

The ages of the infants on admission were :—

Under 1 month	8	Aged 7 months	4
Aged 1 „	22	„ 8 „	6
„ 2 months	14	„ 9 „	4
„ 3 „	16	„ 10 „	2
„ 4 „	5	„ 11 „	4
„ 5 „	4	„ 12 „	5
„ 6 „	4	Over 12 „	*14
		Total	112

The length of stay in hospital varied from one week to 18 weeks. The average was about seven weeks.

---

* These children, though over age, being greatly underweight and undersized, were admitted as urgent "cot" cases.

For the older children, admitted either to the rickets beds in the Babies' Hospital, to the Babies' Ward, Monsall Hospital, or to Booth Hall Hospital, the various diagnoses are grouped under the following headings:—

Rickets	48
Tonsillectomy	33
Respiratory Trouble	13
Atrophy	7
Dyspepsia	4
Debility	4
Malnutrition	4
Gastro-Enteritis	4
Marasmus	3
Cervical Adenitis	2
Scabies	2
Vulva Vaginitis	2
Hernia	2
Hypotrophy	2
Obstinate Constipation	2
Rheumatism	1
Hydrocephalus	1
Congenital Heart	1
T.B. History	1
Anæmia	1
Total	137

The ages of the children admitted for tonsillectomy were:—

Ages	Children
2 to 3 years	11
3 to 4 „	13
4 to 5 „	9
Total	33

MEASLES, GERMAN MEASLES, WHOOPING COUGH, AND PNEUMONIA.

Measles.

Cases of measles and whooping cough have been visited during the year in the same manner as has been described in previous reports. It is unnecessary again to give in detail the principles under which this work is carried out. The importance of this practical control can be seen by observation of the figures given below, and is further emphasised by the well-established fact that these two diseases are not only the infections of childhood which cause more deaths and more incapacitation than any other, but indeed more than all the other infections of childhood. There is no doubt but that this work ranks very high in the services rendered by the health visitors.

Measles.

Cases notified by doctors	5,071
Cases found by health visitors or notified by other than doctors	1,279
Total number of known cases	6,350
Total number of cases investigated	6,350

The sub-joined table shows the incidence of pneumonia in these cases and their distribution according to home cases or hospital cases :—

	Nursed at home 6,022		Removed to hospitals 325		* Developed Measles whilst in hospitals 3		Totals
	Not having Pneumonia	Complicated by Pneumonia	Not having Pneumonia	Complicated by Pneumonia	Not having Pneumonia	Complicated by Pneumonia	
Number of cases ..	5,908	114	214	111	2	1	6,350
Recovered ..	5,899	92	208	80	2	1	6,282
Died	9	22	6	31	..	..	68
Case fatality.	·2%	19·3%	2·8%	27·9%	..	..	1·1%

* Patients in hospital for other conditions developing measles.

In addition 37 cases were found after complete recovery had been made and are classified as "late" cases.

The cases removed to hospital as a rule are cases of a more serious type. This accounts for the somewhat higher mortality rates in that group.

The total visits paid to measles cases was 12,134.

German Measles.

Total number of german measles cases notified..	334
,, ,, ,, ,, visited	334
,, ,, ,, ,, recovered	334
,, ,, ,, ,, died	—
The number of visits paid by the health visitors in respect of german measles was	686

Whooping Cough.

Whooping cough, a disease which is not compulsorily notifiable by the medical profession, has been included since 1911 in a local act as one of three infectious diseases in which parents and guardians of school children must notify the head teacher of any child known or suspected to be suffering from this disease.

The information is passed on to the Medical Officer of Health by the Education Department.

Total number of cases notified	2,230
Total number of cases visited	2,230

The sub-joined table shows the incidence of pneumonia in these cases and their distribution according to home cases or hospital cases :—

	Nursed at home 2,058		Removed to hospitals 162		* Developed Whooping Cough whilst in hospitals 10		Totals
.	Not having Pneumonia	Complicated by Pneumonia	Not having Pneumonia	Complicated by Pneumonia	Not having Pneumonia	Complicated by Pneumonia	
er of ses ..	1,989	69	111	51	5	5	2,230
vered ..	1,981	45	103	31	5	3	2,168
.. ..	8	24	8	20	..	2	62
fatality.	·4%	34·8%	7·2%	39·2%	..	40%	2·8%

* Patients in hospital for other conditions developing whooping cough.

In addition 552 cases of whooping cough were found after complete recovery had been made, and have been classified as "late" cases.

The total visits paid to whooping cough cases was 5,795.

The case-fatality in the two groups relating respectively to measles and whooping cough is based on the actual number of investigated cases which ended fatally, whether the registered cause of death specifically mentioned these diseases, or, as in many cases, merely gave the cause of death as pneumonia.

Pneumonia.

The health visitors investigated also a large number of cases of pneumonia and influenza during the year. The facts relating to these services are given n the reports of these diseases on pages 52 to 54.

Assistance.

The grant (originally made in 1917) to supply milk to young children suffering from measles, whooping cough, pneumonia, etc., in families where he actual income is below the standard scale, was continued during the year. Applications for milk were granted in 536 cases, and 8,519 pints of milk were given.

The general statistics relating to measles, german measles, and whooping cough are found on pages 44 to 48.

Vermin.

As in previous years the Education Department was the main source of notification of verminous cases, and 470 notifications were received as compared with 376 in the preceding year, 379 in 1931, and 584 in 1930.

The cleansing station at Oldham Road was in use for the compulsory cleansing of 21 school children and of 17 voluntary cases on 10 days throughout the year. Formerly all school children requiring compulsory cleansing were referred to this department, and they were cleansed by the special nurse appointed for verminous work. These cleansings are now mostly carried out as voluntary cleansings by the school nurses at various centres in the City.

In addition to her work at the cleansing station, the special nurse carried out in the home the cleansing of 30 persons, all suffering from a serious verminous condition of the head. This assistance was rendered where there was no responsible person in the home to undertake the duty. The nurse also paid 654 other visits to verminous cases.

Scabies.

Our original source of information is principally the Education Department, who sent to us 812 notifications in respect of scabies amongst school children, as compared with 821 in the preceding year, but as in previous years many additional cases were brought to our notice as contacts of those notified.

It was thus often necessary to make provision for the treatment of cases of scabies other than school children at the cleansing station, which was in use for this purpose on 153 days. The average number of treatments per person is three, and altogether 652 treatments were given.

The number of treatments were only very slightly in excess of those for 1932, but they were almost double those given during 1931.

Further evidence of the usefulness of the work is found in that a number of individual requests for treatment was made to the department during the year, including some requests from medical practitioners in respect of families having several members affected. The stoving of the bedding was stipulated for in every case before arrangements for treatment were completed, and though there was frequently reluctance, very little real opposition was encountered. The personal clothing is stoved each time the patient attends for treatment.

N.S.P.C.C.

We are again indebted to this Society for very valuable help rendered, particularly, as has been stated elsewhere, for the assistance given in connection with the children suffering from severe rickety deformity who were admitted to Swinton House. During the year 28 cases were referred for various reasons. We gratefully acknowledge the help given by the Society.

The Ladies' Society for Visiting the Jewish Poor.

This Society employs a nurse, who is also qualified as a health visitor. Her time is partly given to charitable work amongst the Jews and partly to maternity and child welfare work under the direction of the local health authority. The latter portion of her work is done under the general superintendence of this department, and, whilst mainly devoted to the supervision and care of mothers and infants, includes some housing work. The details of her activities are given in the sub-joined tabular statement :—

DISTRICT	HOUSE-TO-HOUSE INSPECTIONS		RE-INSPECTIONS			Primary infants	Subsequent visits	Children from 1 to 5 years	Expectant mothers		Neo.-natal revisits	Verminous visits	Total number of visits
	Number of visits	No. of defects referred to Sanitary Dept.	Number of revisits	Defects remedied	New complaints referred				P.	S.			
Red Bank and Strangeways	842	56	35	13	33	195	937	3032	42	39	17	3	5142

TABLE 2.

SHOWING THE WORK DONE BY THE HEALTH VISITORS IN 1933 AND COMPARING IT WITH THE WORK DONE DURING THE FOUR PRECEDING YEARS.

Classification of visits	1929	1930	1931	1932	1933
Primary visits to infants	12,194	13,780	12,665	12,202	11,517
Subsequent visits to infants under 1 year	59,612	63,364	58,971	56,416	52,351
Subsequent visits to children 1–5 years	137,981	148,524	135,193	136,342	131,691
Other visits *re* infants and young children	438	113	111	80	70
Still-birth investigations	606	803	380	359	471
Other ante-natal visits	2,383	2,554	2,671	2,658	3,154
Measles—Primary visits	9,034	11,252	7,682	12,386	5,963
,, Subsequent visits	13,101	21,380	9,239	20,975	6,171
German measles—Primary visits ..	493	259	2,550	1,634	296
,, Subsequent visits	676	377	3,561	2,057	390
Whooping Cough—Primary visits ..	3,969	1,422	3,038	2,156	2,164
,, Subsequent visits	8,449	2,712	5,704	3,843	3,631
Pneumonia—Primary visits	4,040	2,770	2,873	2,896	3,041
,, Subsequent visits ..	5,958	4,086	4,500	4,114	3,760
Influenza—Primary visits..	1,737	236	895	367	1,594
,, Subsequent visits	1,366	197	594	231	1,257
Verminous cases—Primary visits ..	330	412	242	267	353
,, Subsequent visits	1,045	1,218	836	697	859
Scabies cases—Primary visits	228	378	405	406	365
,, Subsequent visits ..	423	837	732	720	756
Visits *re* sanitary defects	481	266	113	113	114
Visits *re* relief	87	49	29	55	24
Special investigations	22	15	54	31	25
Unsuccessful visits	1,748	2,419	2,312	2,395	1,883
Total visits	266,401	279,423	255,350	263,400	239,100
Number of health visitors	57	58 (1 part-time at centres)	59 (1 part-time at centres)	60	60
Number of health visitors dealing only with measles, whooping cough, and pneumonia cases	4	4	4	4	4
Number of districts worked	53	54 (2 temporary Measles visitors—1 worked 6 weeks and 1 worked 16 weeks)	55	56 (1 temporary H.V. worked ten months-Sick Relief duty)	56
Attendance at child welfare centres..	2,667	3,190	3,694	4,806	4,793

WARD	Number of healt visitors working in the district	Number of death of children unde 1 year of age	Bronchitis and Pneumonia	Prematurity	Debility and Marasmus	Dystocia	Enteritis	Convulsions	Tuberculosis	Syphilis	Accidental Deaths, including Want of Attention at Birth	Influenza	Measles	Whooping Cough	Other Causes
All Saints	2	37	11	8	1	..	5	..	..	2	..	1	2	1	6
Ardwick	3	34	10	7	1	1	4	..	..	..	..	..	1	2	8
Beswick	2	33	9	12	3	..	1	2	..	..	1	..	..	..	5
Blackley	1	23	3	2	1	1	2	1	..	..	1	..	..	..	12
Bradford	3	20	4	3	1	..	3	1	..	..	3	1	..	..	4
Cheetham	1	20	5	9	..	..	1	..	..	..	1	..	..	1	3
Chorlton-cum-Hardy	2	16	1	5	1	1	1	1	..	..	1	..	..	..	5
*Collegiate	2	19	5	5	1	..	2	..	..	1	..	..	..	..	5
Collyhurst	2	41	11	15	2	..	2	1	..	..	..	..	1	1	8
Crumpsall	1	14	3	3	..	..	2	2	..	..	1	..	..	..	3
Didsbury	1	14	3	3	..	2	2	..	..	..	1	..	..	..	3
Gorton North	2	16	4	6	..	..	1	..	..	..	..	1	..	1	3
Gorton South	2	27	4	6	..	..	7	..	..	..	..	..	..	..	10
Harpurhey..	2	28	3	7	..	..	2	1	..	..	1	..	..	1	13
Levenshulme	1	10	..	3	1	..	..	..	1	..	..	..	..	..	5
Longsight	1	18	5	4	..	..	5	..	1	1	1	..	..	..	1
Medlock Street ..	3	42	12	9	1	..	7	..	1	..	..	1	..	2	9
Miles Platting	3	35	10	10	2	..	5	..	..	..	1	1	1	..	5
Moston	1	15	3	9	..	..	..	..	1	..	..	..	..	..	2
Moss Side East ..	1	32	8	15	..	1	5	..	1	..	..	..	..	1	1
Moss Side West ..	1	19	6	2	1	1	1	..	..	..	..	1	..	1	6
New Cross	3	53	16	17	2	1	1	1	1	..	..	1	1	1	11
Newton Heath ..	2	19	3	7	..	..	2	..	1	..	..	..	..	..	6
Openshaw	1	25	5	6	..	..	2	2	1	..	..	1	..	1	7
Rusholme	1	17	3	7	..	..	..	..	..	..	1	..	..	..	6
St. Clement's	1	9	3	4	..	..	..	..	..	..	..	..	..	1	2
St. George's	2	37	13	7	4	1	3	3	..	..	..	1	..	1	4
St. John's	1	8	5	1	..	..	1	..	..	..	..	..	..	..	1
St. Luke's	2	49	18	11	1	..	6	1	..	..	..	..	..	1	11
St. Mark's	2	29	8	6	1	..	..	3	..	2	1	..	..	..	8
St. Michael's	2	29	8	4	1	1	4	4	..	..	..	..	1	..	6
Withington	2	28	3	10	1	..	1	..	..	..	2	1	1	1	8
Wythenshawe	1	17	2	7	..	..	1	1	1	..	..	..	..	..	5
Total	57	833	207	230	26	10	79	24	9	6	16	10	8	16	192

* A portion of Collegiate is worked by the Health Visitor appointed to visit the Jewish Poor.

DEATHS—ONE TO TWO YEARS—1933. TABLE 4.

WARD	Number of health visitors working in the district	Number of deaths among children 1 to 2 years of age	CAUSES OF DEATH—CHILDREN ONE TO TWO YEARS.										
			Bronchitis and Pneumonia	Debility and Marasmus	Enteritis	Convulsions	Tuberculosis	Syphilis	Accidental Deaths	Influenza	Measles	Whooping Cough	Other Causes
All Saints	2	13	9	..	1	..	1	..	..	..	1	..	1
Ardwick	3	12	5	..	..	1	..	1	..	..	2	1	2
Beswick	2	11	8	..	..	..	..	..	..	..	2	1	..
Blackley	1	3	2	..	..	..	1	..	..	..	..	..	..
Bradford	3	5	1	..	..	..	1	..	1	..	1	..	1
Cheetham	1	3	2	..	..	..	..	..	..	..	..	..	1
Chorlton-cum-Hardy	2	4	2	..	..	..	1	..	..	..	..	1	..
*Collegiate	2	3	2	..	..	..	..	..	..	..	..	..	1
Collyhurst	2	12	3	..	1	..	2	..	..	1	2	2	1
Crumpsall	1	2	2	..	..	..	..	..	..	..	..	..	..
Didsbury	1	3	1	..	..	..	..	..	..	..	1	1	..
Gorton North	2	2	1	..	..	..	..	..	1	..	..	..	..
Gorton South	2	2	1	..	..	..	..	..	..	..	..	..	1
Harpurhey	2	5	1	..	..	..	..	..	..	2	..	1	1
Levenshulme	1	1	1	..	..	..	..	..	..	..	..	..	..
Longsight	1	3	..	..	..	..	..	..	..	..	..	1	2
Medlock Street	3	12	6	..	1	..	2	..	..	..	1	..	2
Miles Platting	3	8	5	..	..	..	..	..	..	1	1	..	1
Moston	1	2	..	..	1	..	..	..	..	..	1	..	..
Moss Side East	1	5	3	..	..	..	..	..	..	..	..	..	2
Moss Side West	1	4	1	..	..	..	2	..	..	..	..	..	1
New Cross	3	16	4	..	2	..	..	..	..	1	5	2	2
Newton Heath	2	5	4	..	..	..	..	..	..	..	..	..	1
Openshaw	1	6	2	..	..	..	1	..	..	..	1	2	..
Rusholme	1	3	1	..	1	..	..	..	..	..	..	..	1
St. Clement's	1	5	1	..	..	..	..	..	..	..	2	1	1
St. George's	2	7	5	..	..	..	1	..	..	1	..	..	..
St. John's	1	..	..	..	..	..	..	..	..	..	..	..	..
St. Luke's	2	13	6	..	1	..	..	..	..	..	2	2	2
St. Mark's	2	1	..	..	..	..	1	..	..	..	..	..	..
St. Michael's	2	8	2	..	..	1	1	..	1	1	1	..	1
Withington	2	3	2	..	..	..	..	..	..	..	..	1	..
Wythenshawe	1	1	..	..	..	..	..	..	..	..	..	..	1

TABLE I.—HEALTH VISITORS' YEARLY SUMMARY—TOTALS FOR THE FIFTY-TWO WEEKS ENDING, DECEMBER 31st, 1933.

DISTRICT	No. of Births	INFANT WORK: Primary Visits	INFANT WORK: Subsequent Visits	INFANT WORK: Children 1 to 2 years	INFANT WORK: Children 2 to 3 years	INFANT WORK: Children 3 to 4 years	INFANT WORK: Children 4 to 5 years	[illegible] Children under 5 years [illegible] Diarrhoea	ANTE-NATAL CARE: Still-Births: Primary Visits	ANTE-NATAL CARE: Still-Births: Subsequent Visits: Ex.	ANTE-NATAL CARE: Still-Births: Subsequent Visits: N.P.	ANTE-NATAL CARE: "Neo-Natal Deaths" Revisits: Ex.	ANTE-NATAL CARE: "Neo-Natal Deaths" Revisits: N.P.	ANTE-NATAL CARE: Expectant Mothers: Primary Visits	ANTE-NATAL CARE: Expectant Mothers: Subsequent Visits	OVERCROWDING AND SANITARY DEFECTS: Overcrowdings	OVERCROWDING AND SANITARY DEFECTS: Overcrowdings Abated	OVERCROWDING AND SANITARY DEFECTS: Defects Found	OVERCROWDING AND SANITARY DEFECTS: Defects Remedied	OVERCROWDING AND SANITARY DEFECTS: Special Visits to either	SCABIES: Primary Visits	SCABIES: Subsequent Visits	VERMINOUS WORK: Primary Visits	VERMINOUS WORK: Subsequent Visits	MEASLES WORK: Measles: Primary Visits	MEASLES WORK: Measles: Subsequent Visits	MEASLES WORK: German Measles: Primary Visits	MEASLES WORK: German Measles: Subsequent Visits	WHOOPING COUGH: Primary Visits	WHOOPING COUGH: Subsequent Visits	PNEUMONIA: Primary Visits	PNEUMONIA: Subsequent Visits	INFLUENZA: Primary Visits	INFLUENZA: Subsequent Visits	MISCELLANEOUS VISITS: Visits re Infantile Diarrhoea	MISCELLANEOUS VISITS: Visits re Relief	MISCELLANEOUS VISITS: Visits "Out"	MISCELLANEOUS VISITS: Wrong Addresses: Infants	MISCELLANEOUS VISITS: Wrong Addresses: Infectious Diseases	MISCELLANEOUS VISITS: Special Visits	MISCELLANEOUS VISITS: Clinic and Immunization	No. of Sessions at Centre	TOTAL VISITS	REMARKS
All Saints—North ‡	187	114	718	573	468	505	445	1	4	..	10	..	..	2	..	..	..	(3)	(1)	2	5	10	9	22	138	160	..	..	34	67	24	25	..	..	..	..	..	1	..	..	..	(51)	3,337	‡ Made into a separate district from 15/5/33.
,, —South	203	304	1322	840	786	641	515	3	8	3	10	..	6	94	20	..	..	(11)	..	..	16	24	7	19	135	100	2	3	26	35	37	39	16	7	(2)	2	..	5	..	..		(75)	5,025	
Ardwick—North	163	192	1202	917	832	857	490	2	7	..	5	..	1	17	2	..	..	(1)	..	..	8	35	11	52	137	166	1	4	35	113	23	61	21	32	..	..	..	..				(68)	5,229	
,, —South	157	175	946	738	602	553	614	..	5	4	7	..	2	35	9	..	..	(2)	(1)	1	8	15	6	18	91	93	2	6	20	40	35	28	27	26	(5)	..	..	..	..			(80)	4,106	
,, —East	130	132	485	332	287	218	343	..	8	4	6	..	3	12	2	..	..	..	(1)	..	11	9	4	10	7	11	2	4	6	16	15	20	16	8	..	..	..	3	..	..		(71)	1,974	Unworked 22 weeks. Sickness—later vacant
Barlow Moor	152	166	690	479	431	395	445	..	9	1	5	1	4	78	8	..	..	..	..	..	5	7	1	3	170	176	8	9	30	51	20	27	7	11	..	..	..	..	..			(93)	3,243	
Blackley	272	296	716	572	464	451	627	1	18	13	13	..	4	54	10	(2)	..	(6)	..	..	5	6	6	13	24	39	3	6	28	36	40	39	57	31	..	..	..	..	..	..	..	(57)	3,572	
Bradford—A	174	156	674	505	498	475	453	1	9	1	4	1	3	45	19	..	..	(10)	(2)	..	4	9	2	8	82	89	2	2	7	13	9	17	30	19	..	2	..	6	..		..	(57)	3,148	
,, —B	160	162	691	623	497	459	565	1	8	4	5	..	4	13	1	(1)	..	(13)	(2)	8	6	22	5	5	90	223	1	3	17	45	14	26	28	12	..	..	..	3	1	..	(1)	(100)	3,542	
,, —West	..	51	390	199	184	153	153	1	..	..	..	..	2	9	26	..	..	..	..	30	1	1	..	6	..	1	..	..	3	6	9	22	11	22	..	..	..	1	..	..	..	(47)	1,283	Absorbed into Districts of Beswick and Bradford from 15/5/33
Beswick—A	199	180	1111	713	714	653	462	..	3	1	4	..	3	7	3	..	..	(4)	(1)	..	..	6	3	18	81	163	2	1	21	57	34	32	22	12	..	1	..	7	2	..	(4)	(87)	4,316	
Cheetham	316	330	906	661	533	406	211	..	15	4	6	3	4	32	4	..	..	(3)	..	..	1	..	..	..	19	24	..	1	12	33	36	23	2	..	..	..	..	6	..	..	..	(79)	3,272	
Collyhurst—North	195	212	1151	655	629	521	528	1	3	3	16	..	7	25	7	(1)	..	(26)	(1)	..	5	12	14	41	69	87	1	2	30	46	34	62	81	64	..	..	..	..	..	..	..	(80)	4,306	
,, —South	216	209	847	704	609	582	624	1	15	2	11	1	5	63	12	..	..	..	..	..	3	7	8	12	93	94	..	..	22	35	47	87	35	39	..	..	..	..	..	..	..	(74)	4,167	* 97 visits which were omitted from the monthly totals.
Chorlton-cum-Hardy	225	327	898	479	409	274	209	1	16	2	12	1	2	17	3	..	..	(5)	(3)	2	3	6	1	..	41	50	21	20	24	20	34	30	32	19	..	..	..	..	..	..	(4)	(55)	2,953	
Crumpsall	279	357	1012	857	737	570	371	..	11	13	9	3	2	..	..	..	..	..	..	..	3	3	6	5	28	30	5	10	4	39	29	27	3	1	..	..	..	..	..	1	..	(109)	4,142	
Gorton—N.E.	161	140	437	330	325	268	334	3	2	..	5	3	1	15	4	..	..	(9)	..	..	2	..	1	2	48	88	3	3	12	46	16	16	..	..	(3)	..	..	8	1	..	..	(51)	2,113	Unworked 10 weeks. Sickness
,, —N.W.	154	165	1172	833	787	690	577	..	3	..	2	..	3	44	44	..	..	(21)	(11)	6	4	12	5	18	23	37	1	3	38	64	10	20	35	23	..	..	..	6	1	..	..	(90)	4,626	
,, —S.E.	192	195	959	500	494	422	598	1	6	1	5	..	2	21	..	..	..	(18)	(9)	..	5	8	9	32	25	31	..	..	24	44	25	41	6	8	..	..	..	..	..	..	..	(93)	3,460	
,, —S.W.	155	177	1016	1137	908	663	236	4	3	3	5	2	..	45	19	..	..	(5)	(4)	..	1	9	18	38	33	34	1	1	51	81	8	19	74	43	(2)	2	..	..	..	..	..	(83)	4,631	
Harpurhey—North	159	167	745	500	455	382	411	..	9	3	5	..	2	19	4	..	..	..	(5)	..	2	2	4	8	20	23	..	..	28	33	14	15	9	3	..	..	..	2	..	..	..	(152)	2,865	
,, —South	159	164	613	485	454	384	511	1	8	..	6	3	5	..	..	..	..	(12)	(4)	..	1	1	2	1	43	36	3	2	34	11	22	37	1	2	..	..	..	..	..		..	(72)	2,830	Unworked 9 weeks. Sickness
Levenshulme	220	241	642	383	372	404	578	..	12	..	16	..	8	16	5	(1)	..	(8)	(4)	3	1	3	2	21	9	6	..	2	54	100	10	32	76	132	..	..	..	3	..	..	(4)	(91)	3,131	
Longsight	258	201	912	589	512	463	583	3	6	1	6	1	5	1	..	..	..	..	(2)	..	4	5	3	2	76	81	3	9	23	58	14	32	3	2	..	..	..	..	..	..	..	(87)	3,652	
Medlock Street—East	212	246	1155	804	650	606	614	3	5	2	6	4	6	95	..	..	..	(13)	(9)	1	9	8	6	16	76	28	1	1	39	40	47	94	29	35	..	..	..	..	..	1	..	(48)	4,627	
,, ,, —South	199	227	1090	882	668	585	613	2	7	..	6	1	3	..	..	..	..	(2)	..	..	5	8	9	13	26	19	1	..	44	72	40	57	26	17	..	..	..	..	..	..		(71)	4,421	
,, ,, —S.E.	185	214	1159	720	737	593	601	..	10	..	7	3	2	96	34	..	..	(4)	(2)	..	11	17	9	8	72	62	2	3	32	55	38	37	4	6	..	..	..	..	..	..	..	(79)	4,532	
Miles Platting—North	123	136	1082	734	571	580	403	2	7	3	7	..	2	64	..	..	..	(13)	(1)	..	10	28	3	9	57	200	3	3	30	45	27	76	9	34	(2)	..	..	..	..	..	..	(77)	4,125	
,, —East	124	128	801	570	571	503	525	1	8	..	8	..	2	27	6	..	..	(3)	(3)	5	4	11	1	11	84	111	2	2	4	6	22	43	4	4	..	..	..	..	..	..	..	(77)	3,164	
,, —West	155	153	1314	828	718	702	665	..	4	1	5	12	2	45	31	..	..	(18)	(6)	3	6	14	10	41	99	279	11	12	22	36	52	92	32	47	..	..	..	..	1	..	..	(91)	5,257	
Moss Side—East	250	296	1031	735	735	540	562	7	10	..	2	7	6	1	3	..	..	..	..	..	10	23	3	7	71	57	4	4	18	32	36	52	40	18	(1)	..	..	6	..	1	(5)	(51)	4,317	
,, ,, —West	244	277	849	379	331	277	359	..	13	5	11	..	1	9	1	..	(1)	(5)	(10)	3	9	16	..	46	87	40	1	2	45	104	20	15	2	6	..	..	..	2	1	4	..	(69)	2,915	Vacant six weeks
Moston	209	272	924	887	797	599	556	..	9	..	12	2	2	29	6	..	..	..	..	..	2	6	4	7	87	65	2	3	10	12	34	56	53	21	..	..	..	..	..	..	..	(88)	4,457	
New Cross—Central	192	195	1161	814	759	531	497	1	3	..	7	..	4	29	25	..	..	(6)	(1)	..	15	31	6	13	155	192	2	6	7	17	49	88	23	28	..	..	..	..	2	..	..	(102)	4,660	
,, ,, —South	159	171	731	566	540	487	465	2	9	..	5	2	4	34	5	(4)	..	(2)	..	..	17	46	12	27	159	359	5	4	22	53	45	114	6	11	(1)	..	..	15	..	..	..	(92)	3,916	
,, ,, —West	157	134	1307	1156	837	625	571	3	9	8	7	..	2	48	111	(5)	..	(36)	(2)	28	9	33	15	57	56	142	..	..	2	19	31	120	5	33	..	3	..	2	1	..	..	(54)	5,374	
Newton —North	228	178	919	664	579	502	463	2	6	3	5	..	2	20	12	..	..	(1)	..	..	7	8	13	41	99	142	2	2	42	97	59	111	22	19	(1)	3	..	..	..	..	..	(89)	4,022	
,, —South	158	121	457	392	449	403	510	..	12	3	5	..	4	25	3	..	..	(1)	..	..	10	20	2	12	104	84	5	4	15	17	26	42	1	..	..	..	..	..	..	..	..	(66)	2,726	Unworked 14 weeks. Sickness—later vacant
Openshaw	153	147	700	506	437	439	445	3	10	5	11	1	7	3	3	..	..	..	..	..	2	4	1	4	32	31	..	..	27	69	3	11	18	1	..	7	..	..	..	..	..	(77)	2,927	Unworked 11 weeks. Sickness
Rusholme	243	259	1052	578	546	480	534	..	12	4	16	..	10	24	4	..	..	(26)	(5)	7	3	23	..	7	56	80	7	6	46	85	34	39	125	41	(7)	..	..	1	..	4	3	(51)	4,083	
St. Clement's	119	97	946	644	529	504	502	..	6	..	3	3	5	..	..	..	..	..	..	..	2	4	5	2	103	134	3	..	12	37	7	28	..	6	..	..	..	1	1	..	..	(57)	3,584	
St. George's—East	189	191	1406	964	820	752	670	..	11	..	7	..	3	21	4	..	..	(1)	..	..	11	29	12	17	14	16	..	..	19	49	45	68	33	40	..	..	..	2	..	..	..	(59)	5,204	
,, —West	189	238	1115	833	725	687	555	1	10	2	8	1	..	11	11	..	..	(3)	..	1	10	23	15	41	21	17	2	4	29	62	31	57	21	14	..	2	..	..	..	..		(70)	4,547	
St. John's	170	179	1075	710	701	581	711	..	4	2	5	3	3	64	3	..	..	(1)	..	..	14	24	12	15	20	25	..	..	34	49	29	73	39	24	..	..	..	..	..	..		(71)	4,399	
St. Luke's—North	213	226	815	635	581	552	604	4	8	12	4	3	2	96	1	..	..	(22)	(5)	..	9	19	17	26	116	56	..	1	16	21	43	59	25	16	..	..	..	2	1	1	..	(78)	3,971	
,, ,, —South	257	270	1098	863	675	584	568	4	11	4	9	..	5	34	..	..	(1)	(7)	(1)	..	18	13	8	2	69	65	4	3	32	46	34	24	11	6	..	..	..	..	..	..	..	(69)	4,460	
St. Mark's—North	154	159	1118	903	736	696	684	1	12	..	15	..	4	2	..	..	..	(20)	..	..	6	9	14	30	11	16	5	13	52	152	25	54	13	12	(1)	..	..	..	..	..	..	(114)	4,742	
,, —South	149	116	430	308	295	244	239	3	5	1	4	1	..	25	1	..	..	(3)	..	2	3	4	4	7	55	27	3	6	9	15	7	18	4	2	..	1	..	9	1	3	..	(35)	1,852	Unworked 22 weeks. Sickness—later vacant
St. Michaels—East	201	186	1062	882	631	437	391	..	5	1	6	3	2	..	..	..	..	..	..	..	8	8	8	4	89	156	1	4	15	17	36	64	20	15	..	..	..	1	..	..	..	(116)	4,052	
,, —West	172	177	1193	1002	912	789	726	4	9	1	4	..	8	102	..	..	..	(1)	..	..	12	25	6	11	65	190	3	5	5	15	43	86	48	35	..	..	..	..	..	..	..	(97)	5,476	
Wilbraham	164	177	935	551	510	422	626	..	7	9	11	..	..	22	15	..	..	(1)	(7)	4	1	2	1	9	25	34	3	9	73	77	23	16	41	62	(2)	..	..	..	..		(7)	(120)	3,665	
Withington—East	210	249	616	460	425	304	516	..	3	..	11	1	5	24	1	..	..	(1)	..	..	2	9	..	..	6	13	2	2	10	27	9	20	12	15	..	..	..	..	..	..	..	(94)	2,742	Doing Infant Life Protection work for 1 month
,, —West	249	257	898	591	562	472	591	1	9	3	12	1	2	61	8	..	..	(2)	(2)	..	4	15	1	5	21	20	14	20	83	94	27	37	55	20	..	..	..	4	2	1	3	(89)	3,891	
,, —Central	323	328	567	434	441	368	317	..	11	2	8	1	11	33	1	..	..	(1)	..	..	..	1	..	..	16	19	10	10	23	38	11	18	18	4	..	..	..	..	..	1	..	(106)	2,691	
Wythenshawe	218	253	701	519	317	295	219	..	8	2	6	2	8	32	2	..	..	(3)	..	..	3	2	6	..	32	16	14	22	53	75	31	33	33	15	(2)	..	..	..	..	..	(5)	(97)	2,669	
District I	164	170	610	545	417	368	431	..	4	..	7	..	5	17	11	..	..	(12)	(6)	7	7	34	3	5	30	102	..	..	33	110	14	36	13	26	..	..	..	..	..	..	(3)	(96)	3,005	
,, II	143	144	798	645	657	596	613	..	16	10	18	..	..	21	3	..	..	(1)	..	..	5	21	4	8	44	132	3	3	48	144	23	42	24	26	..	..	..	..	..	..	..	(107)	4,048	
Measles I.	..	14	202	217	222	246	221	1	1	..	1	..	2	..	..	..	..	..	..	1	6	1	5	2	564	419	46	61	90	90	347	319	35	24	..	1	375	6	25	6	10	(37)	3,553	
,, II.	..	6	261	439	393	355	169	..	3	3	5	..	..	..	..	..	..	..	..	..	2	..	2	..	689	343	28	18	240	301	325	336	27	26	..	..	657	..	..	..	10	..	4,628	
,, III.	..	27	296	389	362	376	446	..	5	..	7	..	3	..	..	..	..	..	..	..	4	1	2	..	748	464	25	15	142	87	395	228	84	22	(1)	..	393	..	..	..	10	..	4,521	
,, IV.	..	26	222	247	233	247	242	..	1	..	..	..	1	..	..	..	..	(1)	..	..	5	4	7	2	429	174	21	51	158	277	414	320	37	10	..	..	303	..	7	1	18	(42)	3,439	
Temporary H.V.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Five Temporary Health Visitors worked for 60 weeks, but their visits are entered in the respective districts in which they worked.
	10,761	*11,517	52,351	28,600	24,056	20,722	20,313	76	471	149	444	70	206	1,778	507	(14)	(2)	(367)	(108)	114	365	756	353	859	5,963	6,171	296	390	2,164	3,631	3,041	3,760	1,594	1,257	(30)	24	1,728	108	47	25	(83)	(4,703)	231,900	

Ward	Number of healt visitors working in the district	Number of death among children 2 to 5 years of ag	Bronchitis and Pneumonia	Debility and Marasmus	Enteritis	Convulsions	Tuberculosis	Syphilis	Accidental Deaths	Influenza	Measles	Whooping Cough	Other Causes
All Saints	2	4	3	..	..	..	..	..	..	..	1	..	..
Ardwick	3	9	2	..	1	..	..	..	..	..	2	..	4
Beswick	2	12	6	..	1	..	1	..	..	..	1	..	3
Blackley	1	2	1	..	..	..	..	..	1	..	..	..	..
Bradford	3	6	3	..	..	1	..	..	2	..	..	..	..
Cheetham	1	1	1	..	..	..	..	..	..	..	..	..	..
Chorlton-cum-Hardy	2	5	2	..	..	..	..	..	1	..	..	1	1
*Collegiate	2	3	1	..	..	..	..	..	..	..	..	..	2
Collyhurst	2	13	..	..	..	..	..	..	..	1	1	1	10
Crumpsall	1	3	..	..	..	..	..	..	..	..	..	..	3
Didsbury	1	5	1	..	..	..	..	..	..	..	2	..	2
Gorton North	2	2	2	..	..	..	..	..	..	..	..	..	..
Gorton South	2	3	1	..	..	..	..	..	2	..	..	..	..
Harpurhey	2	3	..	..	1	..	..	..	..	..	..	..	2
Levenshulme	1	3	..	..	..	..	..	..	..	..	..	1	2
Longsight	1	4	..	..	..	..	1	..	..	..	..	..	3
Medlock Street	3	11	5	..	..	..	1	..	..	1	..	2	2
Miles Platting	3	10	1	..	1	..	..	..	2	2	2	..	2
Moston	1	3	1	..	..	..	..	..	..	..	..	..	2
Moss Side East	1	7	2	..	..	..	..	..	1	..	..	1	3
Moss Side West	1	4	..	..	..	..	3	..	1	..	..	..	..
New Cross	3	16	6	..	1	..	2	..	..	2	1	1	3
Newton Heath	2	5	2	..	..	..	..	..	1	1	..	..	1
Openshaw	1	3	1	..	1	..	1	..	..	..	..	..	..
Rusholme	1	1	..	..	..	..	..	..	..	..	..	1	..
St. Clement's	1	5	1	..	..	..	1	..	..	..	1	1	1
St. George's	2	9	5	..	..	..	1	..	2	..	..	..	1
St. John's	1	1	..	..	..	..	..	..	..	..	..	..	1
St. Luke's	2	11	4	..	..	..	2	..	..	1	..	1	3
St. Marks'	2	4	..	..	..	..	..	..	1	..	..	..	3
St. Michael's	2	8	2	..	..	..	1	..	..	..	2	..	3
Withington	2	7	1	..	..	..	1	..	1	1	..	2	1
Wythenshawe	1	6	2	1	1	..	..	..	1	..	..	..	1
Total	57	189	56	1	7	1	15	..	16	9	13	12	59

* A portion of Collegiate is worked by the Health Visitor appointed to visit the Jewish Poor.

TREATMENT OF VENEREAL DISEASES.

During the year 1933, 1,019 new cases of syphilis and 1,449 new cases of gonorrhœa were seen at the clinics. Altogether, there was a total of 2,603 cases of syphilis treated throughout the year and 2,769 cases of gonorrhœa.

The total number of attendances at all the clinics in 1927 was 75,581; in 1930 it was 101,157, and in 1933, 129,629.

A special report upon the progress of the Venereal Disease Scheme in Manchester will be found on pages 308 to 316 consequently some of the customary tables have been omitted from this section of the annual report.

FINANCE

A statement prepared by the City Treasurer shows that the total net expenditure on the scheme for the year 1933 was as follows:—

A.—*Apportionable Expenditure.*

	£	s.	d.
Manchester University, Department of Pathology ..	315	8	3
Ancoats Hospital	2,908	17	8
Manchester and Salford Hospital for Skin Diseases ..	1,343	5	10
St. Luke's Hospital	4,538	6	0
Manchester Royal Infirmary	4,047	1	10
St. Mary's Hospital	1,072	6	3
Approved arsenobenzene compounds issued by the Medical Officer of Health	336	17	11
Auxiliary centre for females	503	12	1
	£15,065	15	10

B.—*Non-apportionable Expenditure.*

	£	s.	d.
Treatment of Manchester patients by other local authorities	2,298	14	8
Maternity and child welfare centres	309	15	6
Publicity	38	10	0
Printing, stationery, and advertising	53	3	0
Administration expenses	366	11	9
	£3,066	14	11
Total expenditure for the year	£18,132	10	9

The total cost per attendance is 3s. 7·24d., an increase of approximately 1½d. on last year's figure of 3s. 5·54d. Comparing the five hospitals, the highest cost per attendance is at Ancoats (4s. 6·76d.) and the lowest at the Manchester Royal Infirmary (2s. 9·45d.). If intermediate treatments are included in the calculation the cost per attendance works out at approximately 1s. 8d.

No action under the Venereal Disease Act, 1917, has been taken during the year. This Act relates mainly to the treatment of persons suffering from venereal disease by unqualified practitioners.

TABLE B.—SHOWING THE WORK DONE AT FIVE VENEREAL DISEASE CLINICS AND AT TWO CHILD WELFARE CENTRES DURING THE YEAR 1933

PARTICULARS	MANCHESTER ROYAL INFIRMARY				ANCOATS HOSPITAL				HOSPITAL FOR SKIN DISEASES				ST. LUKE'S HOSPITAL				ST. MARY'S HOSPITAL				CHILD WELFARE CENTRE, HIGHER ARDWICK				CHILD WELFARE CENTRE, LOWER MOSS LANE				TOTALS FOR THE YEAR				GRAND TOTALS—ALL AREAS (Compared with corresponding figures for 1932)	
	Sy.	S.C.	G.	Not V.D	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	*G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	1933	1932
New Cases	407	..	478	348	215	..	258	430	150	..	32	136	186	34	560	164	34	..	116	207	19	..	4	108	8	..	1	26	1019	34	1449	1419	3921	4027
Total cases treated	1062	..	742	372	312	..	406	460	457	..	32	136	483	43	1315	198	207	..	261	295	50	..	7	115	32	..	6	36	2603	43	2769	1612	7027	7200
Cases discharged after completion of treatment	161	..	195	343	104	..	134	438	21	..	..	136	23	34	121	186	14	..	51	187	3	..	..	107	..	..	2	32	326	34	503	1429	2292	2354
Cases ceasing to attend Clinic—																																		
(A) Before completion of treatment	111	..	44	..	86	..	78	..	94	..	..	..	141	..	302	..	54	..	69	..	2	..	1	..	10	..	1	..	498	..	495	..	993	1132
(B) After completion of treatment, but before final tests as to cure	79	..	27	..	40	..	60	..	17	..	..	..	57	..	203	..	..	..	..	..	..	..	..	..	..	..	..	..	193	..	290	..	483 } 1867	527 } 2036
(C) Transferred to other Treatment Clinics	136	..	130	..	..	..	2	..	38	..	32	..	19	..	20	..	2	..	2	..	3	..	4	..	3	..	..	..	201	..	190	..	391	377
Attendances at the Out-patient Clinic	19809	..	8382	735	8642	..	3446	661	7351	..	..	240	7464	133	12385	407	1911	..	1986	880	570	..	9	297	381	..	94	99	46128	133	26334	3319	75914 } 129629	76095 } 125832
Intermediate treatment	..	..	17740	..	5	..	1124	..	..	..	..	..	1042	2389	27747	..	..	..	469	96	..	..	..	..	..	..	..	..	1047	2389	50183†	96	53715	49737
In-patient Days	43	..	..	..	..	..	..	..	..	..	..	..	641	..	824	..	..	..	..	..	..	..	..	..	..	..	..	..	684	..	824	..	1508	2956
Doses of approved arsenobenzene compounds given	6331	..	..	..	1755	..	..	..	1678	..	..	..	2336	..	..	..	751	..	..	..	382	..	..	..	211	..	..	..	..	..	..	..	13444	15260

PARTICULARS	MANCHESTER ROYAL INFIRMARY				ANCOATS HOSPITAL				HOSPITAL FOR SKIN DISEASES				ST. LUKE'S HOSPITAL				ST. MARY'S HOSPITAL				CHILD WELFARE CENTRE, HIGHER ARDWICK				CHILD WELFARE CENTRE, LOWER MOSS LANE				TOTALS FOR THE YEAR				GRAND TOTALS—ALL AREAS (Compared with corresponding figures for 1932)					
Pathological Examinations made—	Wass.	Spir.	Gon.	Other Organisms	Wass.	Spir.	Gon.	Other Organisms	Wass.	Spir.	Gon.	Other Organisms	Wass.	Spir.	Gon.	Other Organisms	Wass.	Spir.	Gon.	Other Organisms	Wass.	Spir.	Gon.		Wass.	Spir.	Gon.		Wass.	Spir.	Gon.	Other Organisms	Wass.	Spir.	Gon.	Wass.	Spir.	Gon.
A. (Centre)	..	92	1783	..	1340	..	755	..	..	..	..	..	..	37	3522	..	..	..	429	..	..	..	..	..	..	..	..	..	1340	129	6489	..	1340	129	6489	1320	178	6745
B. (Public Health Laboratory)	1794	..	..	..	..	..	..	..	915	2	..	..	952	..	..	11	335	..	..	..	159	..	78	..	39	..	27	..	4194	2	105	11	4194	2	105	4070	4	112
																																	5534	131	6594	5390	182	6857

---

* Gonorrhœa Cases transferred to Other Centres. † Includes 3103 attendances made by patients at Monsall Auxiliary Centre for Females.

TABLE A.

ENERAL SUMMARY OF THE WORK DONE AT ALL THE CENTRES DURING THE YEAR 1933.

	Syphilis		Soft Chancre		Gonorrhœa		Conditions other than venereal		Totals		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F	Totals
umber of cases on 1st January, 1933, under treatment or observation	805	618	9	...	885	304	60	129	1759	1051	2810
umber of cases removed from the register during any previous year which returned during he year under report for reatment or observation of he same infection	29	36	...	...	42	25	...	4	71	65	136
ımber of cases dealt with for he first time during the year ınder report (exclusive of ases under Item 4) suffering rom	657	362	34	...	1140	309	804	615	2635	1286	3921
ımber of cases dealt with for he first time during the year ınder report known to have eceived treatment at other entres for the same infection	62	34	...	...	43	21	....	...	105	55	160
Totals of Items 1, 2, 3, & 4..	1553	1050	43	...	2110	659	864	748	4570	2457	7027
ımber of cases discharged fter completion of treatment nd final tests of cure	249	77	34	...	399	104	821	608	1503	789	2292
mber of cases which ceased o attend before completion f treatment and were, on first ttendance, suffering from ..	235	263	...	...	315	180	...	...	550	443	993
mber of cases which ceased o attend after completion of eatment but before final ests of cure	112	81	..	...	241	49	...	...	353	130	483
mber of cases transferred to ther centres or to institutions, to care of private ractitioners	109	92	...	...	147	43	...	...	256	135	391
mber of cases remaining nder treatment or observation on 31st December, 1933	848	537	9	...	1008	283	43	140	1908	960	2868
Totals of Items 5, 6, 7, 8, and 9 .. .. Totals should agree with se of Items 1, 2, 3, and 4)	1553	1050	43	...	2110	659	864	748	4570	2457	7027
nber of cases in the following ages of syphilis included in em 6 which failed to comete one course of treatment..	92	93	...	...	...	...	...	...	92	93	185
nber of attendances:—											
) for individual attention of the medical officers ..	29641	16487	133	...	18561	7773	1622	1697	49957	25957	75914
for intermediate treatment, *e.g.*, irrigation, dressing	1047	...	2389	...	40949	9234	...	96	44385	9330	53715
Total Attendances	30688	16487	2522	...	59510	17007	1622	1793	94342	35287	129629
atients :—											
Total number of persons admitted for treatment during the year	38	7	...	...	29	10	...	...	67	17	84
Aggregate number of "in-patient days" of treatment given	537	147	..	...	464	360	...	...	1001	507	1508

	Under 1 year		1 and under 5 years		5 and under 15 years		15 years and over		Totals		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
ber of cases of congenital hilis in Item 3 above sified according to age ods	8	16	..	3	7	7	3	13	18	39	57

TABLE C.—WORK DONE AT THE VENEREAL DEPARTMENT, CRUMPSALL HOSPITAL, 1933.

TOTAL ADMISSIONS.

	Syphilis	Soft Chancre	Gonorrhœa	Conditions other than Venereal
Males	53	..	76	31
Females	91	..	35	22
	144	..	111	53

Admission of Patients from other Areas (included in above figures.)

	Syphilis	Soft Chancre	Gonorrhœa	Conditions other than Venereal
Males	..	..	..	1
Females	2	..	3	1
	2	..	3	2

There were 26 normal births in this department of the hospital during the year 1933. There were six stillbirths, one abortion, and no cases of ophthalmia neonatorum.

Twenty-four babies were born or admitted without any signs of specific disease and with negative Wassermanns, and 13 were syphilitic at birth.

Two babies died one aged six days, the other eleven days :—

(1) Eleven days. Cause of death—Marasmus, congenital specific disease.

(2) Six days. Cause of death—Cerebral hæmorrhage, convulsions, prematurity, and hydramnios.

The average length of time under treatment was 37 days.

Persons Treated with Approved Arsenobenzene Compounds.

	Manchester	Other Areas
Males	40	..
Females	81	2
Total	121	2

Number of injections of approved arsenobenzene compounds .. 633

Pathological Examinations.

WASSERMANN REACTION					GONOCOCCI					SPIROCHÆTES				
Positive	Negative	Doubtful	Unsatisfactory Specimens	Total Examined	Positive	Negative	Doubtful	Unsatisfactory Specimens	Total Examined	Positive	Negative	Doubtful	Unsatisfactory Specimens	Total Examined
108	180	15	2	305	50	420	3	..	473	..	1	..	..	1

AUXILIARY CENTRE FOR FEMALES AT MONSALL HOSPITAL.

TABLE D.—SHOWING NUMBER OF PERSONS TREATED AT THE CENTRE DURING 1933.

PARTICULARS	Gonorrhœa	Syphilis and Gonorrhœa	Not V.D.	Total
Number of females who on 1st January, 1933, were under treatment for	24	..	..	24
Number of new patients who attended during the year for the first time—				
(*a*) Name of Clinic from which patient came—				
Ancoats Hospital	48	..	..	48
Manchester Royal Infirmary	16	..	..	16
(*b*) Cases referred to the Centre by Medical Practitioners	12	..	..	12
Old patients who have returned for treatment after discontinuing attendance for some time—				
(*a*) From Clinics—				
Ancoats Hospital	3	..	..	3
Manchester Royal Infirmary	..	..	..	..
(*b*) Cases referred by Medical Practitioners	..	..	..	..
tal item 2 (new patients)	76	..	..	76
tal items 1, 2, and 3—Total patients attending during 1933	103	..	..	103
Cases discharged cured :—				
(*a*) Ancoats Hospital	32	..	..	32
Manchester Royal Infirmary	10	..	..	10
(*b*) Medical Practitioners' Cases	10	..	..	10
tal item 4.—Cases discharged cured	52	..	..	52
Discontinued attendance	17	..	..	17
Transferred to other Clinics	..	..	..	..
Number of patients still attending on Jan. 1st, 1934	34	..	..	34

he number of new patients was 76, which compares with 61 in the previous year 78 in 1931. More than half the cases came from Ancoats Hospital.

he total number of attendances was 3,103, an average of 30·12 per person, there being patients who attended on more than 30 occasions.

27 Sitz baths were given during the year.

TABLE E.

PATHOLOGICAL WORK DONE DURING 1933.

	Wassermann Reaction					Gonococci					Spirochætes				
	Positive	Negative	Doubtful	Unsatis-factory Specimens	Total Examined	Positive	Negative	Doubtful	Unsatis-factory Specimens	Total Examined	Positive	Negative	Doubtful	Unsatis-factory Specimens	Total Examined
A. Work done at the Public Health Laboratory (University Bacteriological Department) :															
Medical Practitioners	264	834	58	7	1,156	84	278	..	3	362	1	3	..	..	4
Institutions other than Approved Centres	89	512	22	5	623	12	52	..	..	64	..	..	..	..	..
St. Luke's Hospital	178	727	43	4	948	3	8	..	1	11	..	..	..	..	..
Manchester and Salford Hospital for Skin Diseases	350	515	78	3	943	..	..	..	..	..	..	2	..	..	2
St. Mary's Hospital	64	251	30	2	345	..	1	..	..	1	..	1	..	..	1
Manchester Royal Infirmary	619	1,018	149	7	1,786	..	..	..	..	..	..	..	..	..	..
Two Maternity and Child Welfare Centres	43	142	13	1	198	7	98	..	..	105	..	..	..	..	..
Total work done at Public Health Laboratory	1,607	3,999	393	29	5,999	106	437	..	4	543	1	6	..	..	7
B. Work done by Hospital Pathologist :—															
Ancoats Hospital	394	852	94	..	1,340	101	635	19	..	755	..	..	..	..	..
C. Work done by Clinical Pathologist at Clinics :—															
Manchester Royal Infirmary	..	..	..	..	..	428	1,355	..	..	1,783	43	49	..	..	92
St. Mary's Hospital	..	..	..	..	..	77	197	155	..	429	..	..	..	..	..
St. Luke's Hospital	..	..	..	..	..	436	2,975	34	87	3,445	21	16	..	..	37
Total of A, B, and C	2,001	4,851	487	29	7,339	1,148	5,599	208	91	6,955	65	71	..	..	136

WELFARE OF THE BLIND.

Blind persons over the age of sixteen are dealt with by the Blind Persons Welfare Committee.

The routine certification of blind persons is carried out by H. V. White, Esq., M.D., and the functions of referee by H. H. MacNabb, Esq., M.D., both of whom are opthalmic surgeons in practice in the City.

Financial assistance is granted to necessitous blind persons who are registered as being ordinarily resident within the City. The grants awarded are taken to the homes of the people by the home teachers of the voluntary agency, who also teach them to read by the Braille and Moon methods; they also assist them with pastime occupations and look after their comfort and welfare generally. An average of 2,000 visits per month are made.

The technical training of young persons and the employment of blind persons who are not incapable of work are also provided for at Henshaw's Institution for the Blind, Old Trafford. Brushes, baskets, mats, knitwear, tablecloths, mattresses, etc., are made in the blind workshops and are offered for sale at a shop in the City.

Homes for the aged men and women and those incapable of work are provided, *i.e.*—

One Home at Rhyl	For aged men only.
One Home at Old Trafford	For aged women only.
One Home at Southport ..	Residents of both sexes who are boarded out in the summer months when it is used as a holiday home for blind people.
Four Homes at Pendleton..	For aged men and women.

They are situated in spacious grounds with healthy surroundings, and the occupants receive every comfort and kindness.

For the first time for many years the Blind Register shows a reduction, the number of persons registered at 31st March, 1934, being 1,207, as against 1,220 for the previous year. This decrease of 13 cases consists entirely of the younger people, the number of unemployable blind persons remaining at last year's figure of 908.

During the year 116 new cases of blindness have been registered.

The following analysis of the Register may be of interest:—

Children under 5 years of age	3
Children of school age (5 to 16 years)	27
Under training	39
No training but trainable	9
Trained but unemployed	5
Employed	216
Unemployable	908
	1,207

The recent Report of the Advisory Committee on the Welfare of the Blind states that "In the past one of the most frequent causes of blindness was disease within a few days of birth," and it comments on the success of the campaign throughout the country to combat infantile blindness, which has almost entirely eliminated it. It is most encouraging to observe the confirmation of this on examination of the Register. In the total of 1,207 cases, the number of blind children under 16 years of age continues to show a steady decrease and is now only 30, of whom three are infants under the age of five years.*

The increase in the number of persons who become blind is found to be almost entirely adult persons in the later years of life. The Form of Medical Report and Certificate recommended by the Prevention of Blindness Committee of the Union of Counties Association has now been adopted by a large number of local authorities, including Manchester, and should furnish evidence on which to base a policy of prevention. The preventive measures adopted in the case of children having succeeded in bringing about a steady annual reduction in the numbers of blind children, it is by this means hoped to discover a means of reducing blindness amongst persons of adult years.

The following summary of the Register for the 12 months ended 31st March, 1934, and also the Classification of Cases of Blindness and Causes of Blindness is interesting :—

MANCHESTER AND SALFORD BLIND AID SOCIETY.

CITY OF MANCHESTER.

Summary of Register of Blind Persons.

	TWELVE MONTHS ENDING 31/3/1934			TWELVE MONTHS ENDING 31/3/33		
Number of cases on the register at 31/3/33			1,220	at 31/3/32		1,220
ADD—						
Number of new cases			116			124
Removals into area, i.e.—						
Cases at Henshaw's Institution	12			7		
Non-grant cases	7			10		
Grant cases	8			16		
	—		27	—		33
Average total amount of weekly grants, £6 13s. 0d.						
			1,363			1,377
DEDUCT—						
Number of deaths		98			114	
Removals out of area, i.e.—						
Cases at Henshaw's Institution	14			5		
Non-grant cases	15			12		
Grant cases	11			15		
	—	40		—	32	
Average total amount of weekly grants, £8 0s. 6d.						
Number of cases de-certified		18			11	
		—	156		—	157
Number of cases on the register at 31/3/34			1,207	at 31/3/33		1,220
		Males	Females		Males	Females
		578	629		573	647

---

* In this connection reference should be made by readers to the reports on ophthalmia neonatorum and on the treatment of venereal diseases on pages 189, 196, and 230 to 234.

MANCHESTER BLIND AID SOCIETY.

CITY OF MANCHESTER.

Classification of new cases of blindness certified and registered from 1st April, 1933, to 31st March, 1934 :—

	Males	Females	Total
w cases from 1/4/33 to 31/3/34	61	55	116*
males receiving P.A.C. grants } 58 grants.			
,, ,, B.A.C. ,,			
female ,, P.A.C. ,,			
,, ,, B.A.C. ,,			
mber of deaths from 1/4/33 to 31/3/34	43	55	98
mber of grant cases deceased	32	30	62
E AT WHICH BLINDNESS OCCURRED—			
Age period			
0— 1	1	1	2
1— 5	1	1	2
5—10	1	..	1
10—20	3	1	4
20—30	3	3	6
30—40	3	3	6
40—50	3	3	6
50—60	7	8	15
60—70	18	17	35
Over 70	21	18	39
	61	55	116
Single	16	11	27
Widows	..	26	26
Married and separated	2	2	4
Widowers	17	..	17
Married	26	16	42
	61	55	116
YSICALLY AND MENTALLY DEFECTIVE—			
Deaf	2	4	6
Physical	7	7	14
Mental and physical	2	2	4
Deaf and physical	..	1	1
Mental	1	1	2
	12	15	27
USES OF BLINDNESS—			
Cataract	26	30	56
Glaucoma	8	5	13
Keratitis	2	—	2
Optic atrophy	7	3	10
Retinis	7	3	10
Congenital	4	..	4
Syphilis	3	6	9
Ophthalmia Neonatorum	1	1	2
Meningitis	1	1	2
Iritis	1	3	4
Trauma	1	2	3
Trachoma	..	1	1
	61	55	116

* Includes 3 cases previously de-certified.

n addition to the above, the following were also examined by Dr. White, viz. :—

(a) 38 cases who were found "Not Blind" within the meaning of the Blind Persons Act, 1920.

(b) 12 cases removals into Manchester of whom 1 was found "Not Blind."

(c) 27 cases already on the register sent for further examination, 18 of whom were found to be no longer blind within the meaning of the Blind Persons Act, 1920.

EFEREE SERVICE.

Five cases were sent to Dr. McNabb for examination. Three persons (*) were in his opinion blind within the meaning of the Blind Persons Act, 1920, and authority was given to reinstate their names on the register of blind persons.

Manchester and Salford Blind Aid Society.

The following details are furnished to enable a comparison to be made to ascertain whether in view of the increased financial assistance given to blind people since 1st April, 1930, the period of life has been extended :—

Age at which Death Occurred	Number of Deaths during 12 months ended 31/3/30	Number of Deaths during 12 months ended 31/3/32	Number of Deaths during 12 months ended 31/3/33	Number of Deaths during 12 months ended 31/3/34
0— 1	Nil	Nil	Nil	Nil
1— 5	Nil	Nil	Nil	Nil
5—10	1	Nil	1	Nil
10—20	2	1	2	Nil
20—30	Nil	3	1	2
30—40	2	Nil	1	3
40—50	7	6	1	4
50—60	8	9	13	5
60—70	17	18	19	18
70—80	19	48	52	42
80—90	9	25	20	18
Over 90	1	10	4	6
	66	120	114	98

PUBLIC EDUCATION IN HEALTH.

Organisation and Lectures Delivered.

All the local guilds, organisations, etc., are circulated from time to time bringing to their notice the lectures which are offered free of charge by the Public Health Committee.

The number of lectures given to guilds, associations, etc., was 108, as against 101 for the previous year. The cost of giving these lectures was £110. One guinea, plus expenses, is paid for each lecture, except those on venereal diseases, the fee for which is two guineas (including expenses). 35 of the 108 lectures were given by members of the staff of this department who do not receive any fees.

Below is a statement showing how the 108 lectures were distributed :—

Co-operative Guilds—

Women	28
Men	4
Mixed	4

Church Organisations :—	
Women's meetings	6
Mixed	4
Women Citizens' Association	12
Elementary Day Schools	31
Unemployed Youths' Clubs	6
Boy Scouts Troops	6
Midwives' Institute	1
Other Organisations	6
Total	108

Titles of Lectures and Number of Times Given.

Lecture	Number of times given	Number of attendances
1. Common Ailments of the Child	1	30
2. Some Mistakes Mothers Make	1	25
3. What to tell our Children about Sex	4	132
4. Adolescence and its Problems	2	85
5. Miscellaneous Lectures to Boy Scouts desirous of obtaining Public Health Badge	3	64
6. Recreation and Health	1	40
7. The Change of Life	5	252
8. Our Bodies and How We Live	3	84
9. Food and Drink : Their Use and Abuse	2	58
10. Venereal Diseases	5	148
11. Tuberculosis	1	40
12. Cancer	5	213
13. Diphtheria : Its Dangers and Prevention	31	3,765
14. Foods : Values and Prices	2	45
15. Prostitution : A Social Problem	2	78
16. Housing and Health	1	30
17. Sunlight and Health	2	63
18. Smoke Abatement	1	30
19. The Romance of Medical Science	3	114
20. Recent Advances in Medical Research	3	175
21. Laughter and Health	10	431
22. Seeing What Isn't There	3	108
23. The Fear of Disease	3	128
24. Interest in Life : Keeping and Losing it	6	311
25. Hobbies and Health	1	100
26. Antidotes to Anxiety	1	20
27. The Curiosity of Children	1	25
28. Maternal Mortality	1	50
29. The Problem of Clean Milk	1	45
30. Chief Needs of Little Children	1	35
31. Wise Middle Age	2	112
Total	108	6,836
Average		63·3

Letters of appreciation regarding the manner in which these lectures have been delivered have frequently been received from various organisations. Verbal appreciation is often expressed when secretaries of organisations approach the department for further lectures.

The medical staff of the department assisted in a course of lectures given to pupil health visitors.

"Better Health."

It is regretted that the journal "Better Health," which began to be circulated in Manchester in February, 1931, was discontinued in September of this year owing to inadequate demand for advertising space. Hitherto, the proceeds from advertisements had enabled the department to distribute the journal gratis. It is anticipated, however, that it will not be long before this journal—which has proved a very efficient and inexpensive method of bringing health matters to the notice of the citizens—is once again being distributed to the public.

From January, 1933, to its discontinuance in September the subjoined list of articles, contributed by officers of this department, have appeared in "Better Health"—

1. "The Common Cold."—Dr. McClure.
2. "Work and the Tuberculosis."—Dr. D. P. Sutherland.
3. "The Bed Bug."—Mr. I. Priestley and Mr. W. A. Cartland.
4. "Babies' Feet," Article I.—Dr. Nora F. Smith.
5. "Babies' Feet," Article II.—Dr. Nora F. Smith.
6. "Measles"—Dr. Veitch Clark.
7. "Clean Food."—Mr. Fred Pollard.
8. "The House-Fly."—Dr. McClure.
9. "Smoke and Health."—Dr. J. S. Taylor.

Exhibition.

The department is once more indebted to the "Daily Dispatch" for the reservation of a large area for the department in the "Health and Hygiene" Exhibition held in the City Hall. Three stalls were occupied by the Public Health Department; one being used for exhibits loaned by the British Hygiene Council; another devoted to dental work and showing exhibits loaned by the Dental Board of the United Kingdom; the third was used for the exhibition of the work done by patients in Baguley Sanatorium. A lecturer from the Dental Board of the United Kingdom was present daily and lectured to large audiences several times each day. Literature was greatly in demand and thousands of leaflets were put into circulation. The stall occupied by Baguley Sanatorium under the name of "Baguley Handicrafts" exhibited articles made by patients of both sexes in the occupational workshops of the sanatorium. All the articles shown had a ready sale, and the value of the public realisation of this side of the sanatorium work can scarcely be overestimated. Further reference on this subject should be made to the section of the Annual Report dealing with Baguley Sanatorium and its activities.

Through such exhibitions a large public is reached, and the success of the undertaking is enhanced by the teaching of the sanitary inspectors and health visitors who are in constant attendance.

Film.

During the last few months of the year a health educational film entitled "Damaged Lives," sponsored by the British Social Hygiene Council, was shown in several of the local cinemas for varying periods.

This film deals with the dangers of venereal diseases, and there can be little doubt that it proved of great educational value to the many thousands who witnessed it.

In the weeks following its exhibition there was found to be a definite increase in the number of new cases of venereal disease presenting themselves for examination and treatment at the several clinics in the City.

WORK DONE BY HEALTH VISITORS, SANITARY INSPECTORS, AND SUPERINTENDENTS OF MATERNITY AND CHILD WELFARE CENTRES.

Whilst organisation of courses of lectures, public exhibitions, cinema demonstrations, and other organised efforts towards the education of the public in matters of importance in relation to health are perhaps more purely educational and very striking in their presentation to the public, there is no doubt that by far the greatest amount of the education of the people in matters relating to their personal and family welfare is effected by the regular home visitation and advice carried out by the staff of health visitors and sanitary inspectors in their daily work. Especially is it true that the health visitor has unequalled opportunity of carrying out health education of a high order, Her interest is in the individual welfare of the mothers and young children. She touches directly the living personal contacts of the people whom she meets. She is trained professionally to give sound advice and how to apply in ordinary daily life the scientific knowledge which her training has imparted to her. The weekly talks given in the maternity and child welfare clinics by the centre superintendents are of particular value, inasmuch as the mother is reached by them in an environment when her whole attention is devoted to the well-being of her children and of herself in her motherhood.

Similarly, the sanitary inspector in other aspects of family life comes into close relationship with the people.

Together these two groups of workers contribute more to the actual dissemination of knowledge of this nature than any other organisation in the City.

AMBULANCE AND DISINFECTING STATION.

This station was opened in December, 1930, as a result of the existing premises and plant at 299, Oldham Road, being required by the Cleansing Department for other purposes. The station is open day and night for the removal of infectious disease cases, and for the collection and disinfection of infected bedding.

Staff :—

Manager
Motor mechanic
3 Clerks
14 Ambulance officers
5 Disinfectors
6 Labourers

Ambulances :—

There is a fleet of seven ambulances in use for the removal of infectious disease cases, including tuberculosis. During the year under review the number of cases removed to hospital was 4,867. The mileage covered was 62,658.

Disinfection.

For the disinfection of bedding, clothing, etc., two steam disinfectors are installed at the station. For articles which cannot be subjected to steam, disinfection by formalin is carried out in a chamber built for the purpose. Two motor bedding vans are used for the removal of infected bedding, clothing, etc., and during the year 1933, 41,098 articles were removed. The mileage covered by the bedding vans was 25,137.

The following table shows the number and type of articles disinfected each month during the year :—

Month ending	Blankets	Sheets	Pillows	Bolsters	Quilts	Mattresses	Beds	Carpets	Clothing	Sundries	Totals
nuary ..	608	272	683	153	438	228	290	15	467	162	3,316
bruary ..	686	186	578	130	308	167	224	11	377	128	2,795
arch	797	262	640	154	379	189	243	22	473	338	3,497
pril	523	211	558	120	311	163	233	12	357	147	2,635
ay	1,983	262	637	159	419	147	271	7	456	564	4,905
ne	999	213	453	122	284	143	199	14	321	257	3,005
ly	584	232	527	121	287	148	209	17	280	153	2,558
gust	318	194	428	108	228	129	187	14	284	152	2,042
ptember ..	721	258	604	184	346	191	274	12	541	161	3,292
tober ..	1,651	320	673	166	435	160	298	18	536	580	4,837
vember ..	947	294	819	191	504	217	317	23	566	1,108	4,986
cember ..	717	208	646	189	419	192	265	32	391	171	3,230
Totals ..	10,534	2,912	7,246	1 797	4,358	2,074	3,010	197	5,049	3,921	41,098

Steam disinfector	38,321	Articles
Formic Aldehyde Chamber	1,530	756 Mattresses. 774 Clothing.
,, ,, ...	1247	Books.
	41,098	Total.

Disinfectors.

Three disinfectors are employed for fumigation of rooms, etc., in which cases of tuberculosis have occurred, and for general disinfection after cases of smallpox and typhus fever.

Garage.

The station garages the ambulances and bedding vans, and in addition, three motor cars which are owned by the Public Health Committee,

REPORT OF THE SANITARY SECTION.

Food Supervision.

Prevention of Food Adulteration.

The number of samples procured during the year by the three sampling officers and submitted to the Public Analyst for chemical analysis was 3,286, comprising 114 different articles of food and drugs. Of these, 562 were informal samples and 2,724 were statutory samples. Prosecutions were instituted in 41 cases. Thirty-two offenders were fined, six were ordered to pay costs, and three summonses were withdrawn or dismissed.

The fines and costs totalled £90 11s. 8d. For details, see Table 1, pages 247 and 248.

Where informal samples have revealed adulteration, statutory samples have been obtained as early as possible.

The following comparative statement indicates the extent of adulteration in Manchester and the average for England.

Year	Percentage of Samples Adulterated			
	Milk		All Food and Drugs	
	Manchester	Average for England	Manchester	Average for England
1929	8·81	7·8	3·97	5·4
1930	6·73	6·6	3·15	4·8
1931	4·77	6·4	2·71	4·6
1932	8·38	7·3	3·98	5·1
1933	7·98	—	4·41	—

811 samples of milk were procured by the sampling officers at railway stations and from vehicles entering the City by road, and were submitted for bacteriological examination.

Public Health (Preservatives, etc., in Food) Regulations, 1925 to 1927.

The provisions of these regulations have been enforced during the year. All samples governed by the regulations have been examined by the Public Analyst for the presence of preservatives. and include the following:—

Samples of milk	1,378
Samples of foodstuffs	412
Samples of foodstuffs specially submitted	308
Total	2,098

PARTICULARS OF SAMPLES FOUND TO CONTAIN PRESERVATIVES.

Article	Sample Number	Result of Analysis	From whom Obtained	Result of Legal Proceedings		Remarks
				Fine	Costs	
				£ s. d.	£ s. d.	
ausages	20	Contained 90 parts of sulphur dioxide per million parts	Retailer......	1 0 0	0 10 6	....
	32	Contained 140 parts of sulphur dioxide per million parts	Manufacturer	2 0 0	0 10 6	....
	1,130C	Contained 80 parts of sulphur dioxide per million parts	Retailer......	....	....	Dismissed
	211	Contained 60 parts of sulphur dioxide per million parts	Retailer......	2 0 0	0 10 6	....
	233	Contained 0·15 per centum of boric acid	Retailer......	....	....	Withdrawn
	265	Contained 0·14 per centum of boric acid	Wholesaler ..	....	....	Withdrawn
	293	Contained 0·21 per centum of boric acid	Manufacturer	2 0 0	1 1 0	....
	301	Contained 0·02 per centum of boric acid	Manufacturer Retailer......	2 0 0	1 1 0	....
	958B	Contained 160 parts of sulphur dioxide per million parts	Retailer......	....	....	Informal sample
	973B	Contained 140 parts of sulphur dioxide per million parts	Retailer......	2 0 0	0 10 6	....
	335	Contained 50 parts of sulphur dioxide per million parts	Retailer......	1 0 0	0 10 6	....
	469	Contained 110 parts of sulphur dioxide per million parts	Retailer......	2 0 0	0 10 6	....
	662	Contained 90 parts of sulphur dioxide per million parts	Retailer......	1 0 0	....	....
	663	Contained 120 parts of sulphur dioxide per million parts	Retailer......	....	0 10 6	Dismissed on payment of costs
	679	Contained 38 parts of sulphur dioxide per million parts	Wholesaler ..	3 0 0	0 10 6	....
	760	Contained 50 parts of sulphur dioxide per million parts	Retailer......	1 0 0	0 10 6	....
	1,765C	Contained 50 parts of sulphur dioxide per million parts	Retailer......	1 0 0	0 10 6	....
	877	Contained 70 parts of sulphur dioxide per million parts	Retailer......	1 10 0	0 10 6	....
	917	Contained 170 parts of sulphur dioxide per million parts	Retailer......	1 10 0	0 10 6	....
	930	Contained 80 parts of sulphur dioxide per million parts	Manufacturer	3 0 0	1 2 6	....
rawn	626B	Contained 270 parts of sulphur dioxide per million parts	Retailer......	0 10 6	....	....
	650B	Contained 300 parts of sulphur dioxide per million parts	Manufacturer	5 0 0	1 1 0	....
anned Kidney Beans	82	Contained 40 parts of copper per million parts	Wholesaler ..	10 0 0	0 10 6	....
anned Peaches	17	Contained 30 grains per pound of perchloride of mercury	Retailer (by private purchaser)	....	....	Informal sample. Referred to police

The sample of canned kidney beans (Haricot Verts) was taken at the wholesaler's warehouse as a result of information received from the Ministry of Health with regard to the consignment.

The sample of canned peaches, which was brought to the office by a complainant, had been tampered with after being opened, and as criminal intent was suspected the matter was referred to the police authorities.

Public Health (Condensed Milk) Regulations, 1923 *and* 1927.

Public Health (Dried Milk) Regulations, 1923 *and* 1927.

The number of samples of condensed milk examined was 19, and seven samples of dried milk were analysed.

All were reported to conform to the prescribed standards and to justify the statement on the label.

Artificial Cream Act, 1929.

Premises on register, 31st December, 1932	3
Premises registered during the year	1
Premises removed from register	1
Premises on register, 31st December, 1933	3

Five visits have been paid to these premises during the year. There have been no infringements of the Act.

Registration of Wholesale Dealers in Margarine and Magarine Cheese.

Number on register, 31st December, 1932	144
Number registered during the year	13
Number discontinued during the year	32
Number on register, 31st December, 1933	125
Number of visits	150

No offences were reported.

Notifications of new registrations were sent to the Minister of Agriculture and Fisheries in accordance with Section 8 (2), Food and Drugs (Adulteration) Act, 1928.

Table I.

Showing the Proceedings taken under the Provisions of the Adulteration of Food and Drugs and the Margarine Acts during 1933.

Informal Samples		Article	Statutory Samples		Prosecutions								
Number Obtained	Number Adulterated		Number Obtained	Number Adulterated	Number Summoned	Number Cautioned	No action taken. Adulteration slight	Number Summoned before Magistrates	Number Fined	Number ordered to pay Costs only	Dismissed or Withdrawn	Amount of Fines Imposed	Amount of Costs ordered to be Paid
												£ s. d.	£ s. d.
..	..	Almonds, Ground	22	..	..	..	..	..	..	..	..		
..	..	Arrowroot	5	..	..	..	..	..	..	..	..	..	..
6	..	Bacon and Ham	24	..	..	..	..	..	..	..	..	..	..
..	..	Baking Powder	18	..	..	..	..	..	..	..	..	..	..
..	..	Barley	35	..	..	..	..	..	..	..	..	..	..
*1	..	Bread	24	..	..	..	..	..	..	..	..	..	..
33	..	Butter	45	..	..	..	..	..	..	..	..	..	..
7	1	Butter (on Bread)	1	1	1	..	..	1	1	..	..	0 10 0	0 10 6
..	..	Bicarbonate of Soda	23	..	..	..	..	..	..	..	..	..	..
..	..	Borax	14	..	..	..	..	..	..	..	..	..	..
1	..	Borax, Glycerine of	6	..	..	..	..	..	..	..	..	..	..
..	..	Boric Acid	14	..	..	..	..	..	..	..	..	..	..
4	..	Cakes, Sweet	20	..	..	..	..	..	..	..	..	..	..
..	..	Camphor, Compound Tincture of	7	..	..	..	..	..	..	..	..	..	..
..	..	Camphor, Spirit of	9	..	..	..	..	..	..	..	..	..	..
2	..	Cascara Extract	6	..	..	..	..	..	..	..	..	..	..
6	..	Cheese	16	..	..	..	..	..	..	..	..	..	..
..	..	Cinnamon, Ground	8	..	..	..	..	..	..	..	..	..	..
..	..	Citric Acid	3	..	..	..	..	..	..	..	..	..	..
1	..	Cocoa	19	..	..	..	..	..	..	..	..	..	..
18	..	Coffee	27	..	..	..	..	..	..	..	..	..	..
2	..	Coffee Essence	..	..	..	..	..	..	..	..	..	..	..
1	..	Coffee Extract	..	..	..	..	..	..	..	..	..	..	..
..	..	Cornflour	17	..	..	..	..	..	..	..	..	..	..
2	..	Cream	16	..	..	..	..	..	..	..	..	..	..
4	..	Cream, Tinned	..	..	..	..	..	..	..	..	..	..	..
..	..	Cream of Tartar	25	..	..	..	..	..	..	..	..	..	..
3	..	Custard Powder	23	..	..	..	..	..	..	..	..	..	..
..	..	Dripping	8	..	..	..	..	..	..	..	..	..	..
4	..	Distilled Water	4	..	..	..	..	..	..	..	..	..	..
..	..	Epsom Salts	22	..	..	..	..	..	..	..	..	..	..
3	..	Fish, Prepared	11	..	..	..	..	..	..	..	..	..	..
10	3	Fish, Tinned	5	..	..	..	..	..	..	..	..	..	..
..	..	Flour	30	..	..	..	..	..	..	..	..	..	..
..	..	Flour, Self-raising	35	..	..	..	..	..	..	..	..	..	..
..	..	Flowers of Sulphur	7	..	..	..	..	..	..	..	..	..	..
5	..	Fruit, Dried	78	..	..	..	..	..	..	..	..	..	..
†7	1	Fruit, Tinned	11	..	..	..	..	..	..	..	..	..	..
..	..	Ginger, Ground	14	..	..	..	..	..	..	..	..	..	..
..	..	Glauber's Salt	22	..	..	..	..	..	..	..	..	..	..
..	..	Glycerine	21	..	..	..	..	..	..	..	..	..	..
..	..	Gregory Powder	11	..	..	..	..	..	..	..	..	..	..
2	..	Honey	2	..	..	..	..	..	..	..	..	..	..
..	..	Iodine, Tincture of	17	..	..	..	..	..	..	..	..	..	..
..	..	Ipecacuanha, Tincture of	4	..	..	..	..	..	..	..	..	..	..
4	..	Jam	28	..	..	..	..	..	..	..	..	..	..
2	..	Jelly, Table	1	..	..	..	..	..	..	..	..	..	..
..	..	Lard	41	..	..	..	..	..	..	..	..	..	..
3.	..	Lemon Cheese	7	..	..	..	..	..	..	..	..	..	..
..	..	Lentils	9	..	..	..	..	..	..	..	..	..	..
3	..	Lime Water	5	..	..	..	..	..	..	..	..	..	..
..	..	Liquorice, Compound Powder of	14	..	..	..	..	..	..	..	..	..	..
..	..	Macaroni	7	..	..	..	..	..	..	..	..	..	..
1	..	Magnesia	..	..	..	..	..	..	..	..	..	..	..
13	..	Margarine	22	..	..	..	..	..	..	..	..	..	..
1	..	Marmalade	2	..	..	..	..	..	..	..	..	..	..
149	5	Carried forward	865	1	1	..	..	1	1	..	..	0 10 0	0 10 6

---

* Private sample.

† Includes one private sample found to be genuine.

TABLE 1—*continued*

SHOWING THE PROCEEDINGS TAKEN UNDER THE PROVISIONS OF THE ADULTERATION OF FOOD AND DRUGS AND THE MARGARINE ACTS DURING 1933—*continued*

INFORMAL SAMPLES		ARTICLE	STATUTORY SAMPLES					PROSECUTIONS									
Number Obtained	Number Adulterated		Number Obtained	Number Adulterated	Number Summoned	Number Cautioned	No action taken. Adulteration slight	Number Summoned before Magistrates	Number Fined	Number ordered to pay Costs only	Dismissed or Withdrawn	Amount of Fines Imposed			Amount of Costs ordered to be paid		
												£	s.	d.	£	s.	d.
149	5	Brought forward	865	1	1	..	..	1	1	..	..	0	10	0	0	10	6
3	..	Meat, Prepared	31	2	2	..	..	2	2	..	..	5	10	0	1	1	0
..	..	Meat, Tinned	1	..	..	..	..	..	..	..	..		..			..	
4	..	Medicated Tablets	32	..	..	..	..	..	..	..	..		..			..	
1	..	Medicated Lozenge	15	..	..	..	..	..	..	..	..		..			..	
..	..	Mincemeat	2	..	..	..	..	..	..	..	..		..			..	
1	..	Mustard	7	..	..	..	..	..	..	..	..		..			..	
273	26	Milk	1105	84	15	2	67	15	11	4	..	19	15	0	12	17	8
17	..	Milk, Condensed	2	..	..	..	..	..	..	..	..		..			..	
6	..	Milk, Dried	1	..	..	..	..	..	..	..	..		..			..	
..	..	Milk of Sulphur	5	..	..	..	..	..	..	..	..		..			..	
..	..	Oatmeal	23	..	..	..	..	..	..	..	..		..			..	
1	..	Oil, Almond	9	..	..	..	..	..	..	..	..		..			..	
..	..	,, Camphorated	21	1	1	..	..	1	1	..	..	0	10	0	0	10	6
..	..	,, Castor	10	..	..	..	..	..	..	..	..		..			..	
3	..	,, Cod Liver	16	..	..	..	..	..	..	..	..		..			..	
..	..	,, Olive	20	..	..	..	..	..	..	..	..		..			..	
1	..	,, Paraffin	11	..	..	..	..	..	..	..	..		..			..	
6	..	Ointment, Boric	2	..	..	..	..	..	..	..	..		..			..	
3	..	,, Mercury	..	..	..	..	..	..	..	..	..		..			..	
7	..	,, Sulphur	2	..	..	..	..	..	..	..	..		..			..	
7	..	,, Zinc	3		..	..	..	..	..	..	..		..			..	
..	..	Parrish's Food	1	..	..	..	..	..	..	..	..		..			..	
1	..	Pepper	27	..	..	..	..	..	..	..	..		..			..	
3	..	Pickles	11	..	..	..	..	..	..	..	..		..			..	
..	..	Pill, Iron	1	..	..	..	..	..	..	..	..		..			..	
..	..	Prescriptions	2	..	..	..	..	..	..	..	..		..			..	
1	..	Quinine, Ammoniated Tincture of	9	..	..	..	..	..	..	..	..		..			..	
..	..	Rice	40	..	..	..	..	..	..	..	..		..			..	
..	..	Rice, Ground	18	..	..	..	..	..	..	..	..		..			..	
..	..	Rhubarb, Compound Tincture of	2	..	..	..	..	..	..	..	..		..			..	
4	1	Sausages	51	19	19	..	..	19	15	1	3	26	0	0	9	10	6
8	..	Sauces	1	..	..	..	..	..	..	..	..		..			..	
1	..	Senna, Confection of	..	..	..	..	..	..	..	..	..		..			..	
..	..	Suet	2	..	..	..	..	..	..	..	..		..			..	
1	..	Sugar	40	..	..	..	..	..	..	..	..		..			..	
..	..	Sweets	42	..	..	..	..	..	..	..	..		..			..	
2	..	Sweet Spirit of Nitre	1	..	..	..	..	..	..	..	..		..			..	
..	..	Syrup, Easton's	1	..	..	..	..	..	..	..	..		..			..	
..	..	Syrup of Orange	2	..	..	..	..	..	..	..	..		..			..	
..	..	Syrup of Violets	1	..	..	..	..	..	..	..	..		..			..	
3	..	Seidlitz Powder	..	..	..	..	..	..	..	..	..		..			..	
..	..	Tapioca	26	..	..	..	..	..	..	..	..		..			..	
..	..	Tartaric Acid	10	..	..	..	..	..	..	..	..		..			..	
..	..	Tea	49	1	..	..	1	..	..	..	..		..			..	
..	..	Tripe	9	..	..	..	..	..	..	..	..		..			..	
7	..	Treacle and Golden Syrup	4	..	..	..	..	..	..	..	..		..			..	
..	..	Valerian, Tincture of	1	..	..	..	..	..	..	..	..		..			..	
8	1	Vegetables, Canned	4	1	1	..	..	1	1	..	..	10	0	0	0	10	6
1	..	Vinegar	16	..	..	..	..	..	..	..	..		..			..	
11	..	Beer	8	..	..	..	..	..	..	..	..		..			..	
6	..	Cider	1	..	..	..	..	..	..	..	..		..			..	
4	..	Cordials	11	..	..	..	..	..	..	..	..		..			..	
13	..	Minerals and Aerated Waters	8	1	..	1	..	..	..	..	..		..			..	
		Spirits—															
..	..	Brandy	19	..	..	..	..	..	..	..	..		..			..	
..	..	Gin	18	..	..	..	..	..	..	..	..		..			..	
..	..	Rum	39	1	1	..	..	1	..	1	..		..		0	15	6
..	..	Whiskey	44	1	1	..	..	1	1	..	..	2	0	0	0	10	6
6	..	Wines	22	..	..	..	..	..	..	..	..		..			..	
562	33	TOTALS	2724	112	41	3	68	41	32	6	3	64	5	0	26	6	8

FOOD-PREPARING PREMISES REGISTERED UNDER THE MANCHESTER CORPORATION (GENERAL POWERS) ACT, 1930.

The total number of such premises on the register is 497, at which the following foods are prepared:—

Sausages	at	235	premises.
Potted meat and brawn	,,	186	,,
Roasted and boiled ham	,,	139	,,
Pressed, pickled, cooked, etc., beef and tongue	,,	83	,,
Roasted pork	,,	33	,,
Bacon	,,	8	,,
Fish paste	,,	17	,,
Boiled crabs and lobsters	,,	16	,,
Pickled fish	,,	4	,,
Pickled onions	,,	1	,,

1,264 inspections were made during the year. In eight cases cautions were given regarding dirty conditions, which were subsequently remedied

New registrations	18
Removed from register owing to discontinuance of business.	14
Transfers of certificates of registration due to change in occupancy	11

Twenty applications for registration have been received during the year. The premises concerned were inspected with regard to structural fitness, cleanliness, and equipment, and reports submitted to the Public Health Committee. Ten of these premises were found to be satisfactory, and certificates of registration were granted. In the remaining ten cases the premises upon inspection were found to be unsuitable. Six of these were subsequently registered, having been brought up to a satisfactory standard of fitness. Two applications referred to premises which were incapable of being made satisfactory at reasonable cost; one was withdrawn and the other refused.

Two cases stand adjourned at the end of the year in order to give the applicants opportunity to bring their premises up to the requisite standard of fitness.

FOOD-PREPARING PREMISES REGISTERED UNDER THE MANCHESTER CORPORATION (GENERAL POWERS) ACT, 1930.

Details of Applications Received.

Nature of Business	Applications for registration	Reported satisfactory and certificates granted	Registered after necessary requirements fulfilled	Registration refused	Applications withdrawn	Stand adjourned
Sausages	9	6	3	..	..	..
Sausages and Potted Meat	2	1	1	..	..	..
Sausages and Pickled Beef	1	1	..	..	..	..
Sausages and Pork Products	1	..	1	..	..	..
Potted Meat	1	..	..	..	..	1
Potted Meat and Fish	1	..	1	..	..	..
Potted Meat and Boiled Ham	1	..	..	1	..	..
Fish Paste	1	..	..	..	1	..
Roast Pork	1	1	..	..	..	..
Boiled Ham	1	1	..	..	..	..
Roast Meats	1	..	..	..	..	1
Totals	20	10	6	1	1	2

APPLICATIONS OUTSTANDING AT THE END OF 1932.

Three applications were outstanding at the end of 1932. In two cases the requirements necessary to render the premises suitable have been fulfilled and registration has been granted. In the remaining case a considerable amount of work has been done, but was not completed at the end of the year.

BAKEHOUSES.

Stringent supervision has been exercised over all bakehouses to ensure the production of food under hygienic conditions. There is a general improvement in the condition of these premises and equipment, and a high standard of cleanliness is maintained.

Inspection of bakehouses during the year	5,368
Number on register at end of 1932	652
Number registered during the year	19
Number removed from register during the year	24
Number on register at the end of 1933	647
Sanitary defects remedied after cautions (includes one outstanding from 1932)	6
Notices served for sanitary defects	3

Notices complied with (includes one outstanding from 1932) ..	3
Prosecutions ordered by Committee for failing to comply with notices	2
Defects remedied before issue of summons	2
Dirty conditions remedied after cautions (includes seven outstanding from 1932)	35
Caution to cleanse given, and work outstanding at end of year ..	1
Applications for registration of new bakehouses	22
Applications approved subject to fulfilment of requirements of the Medical Officer of Health	17
Applications refused on the grounds of unfitness	3
Applications withdrawn	2
Changes of occupiers recorded	11

Plans of five new bakehouses submitted to the Town Planning and Buildings Committee, and referred to the Medical Officer of Health were recommended for approval.

The number of underground bakehouses shows a steady decline, the figures for the past five years being :—

1929	46
1930	38
1931	33
1932	32
1933	30

Only eleven of these underground bakehouses are in use at present.

Restaurant Kitchens.

Ninety inspections have been made of restaurant kitchens in the City; these have been found generally to be satisfactory.

Butchers' Shops and Bacon Stores.

These premises are inspected to ensure the fulfilment of the requirements of the Public Health (Meat) Regulations, 1924, which are framed to protect meat from contamination by dirt, filth, or flies.

888 inspections were made. In a few instances minor infringements were found which were remedied after verbal cautions had been given by the inspectors. The remaining cases were reported to be satisfactory.

On no occasion was it necessary to institute legal proceedings.

HOUSING ACTIVITIES.

New Houses.

The number of new houses completed in the City during the year was 4,585. Of these, 3,341 have been erected by the local authority and 1,244 by other bodies or persons.

Occupied houses, excluding tenement dwellings, on the Corporation estates at the close of the year numbered 20,186. This figure includes 150 cottages built pre-war at Blackley.

The number of tenement dwellings owned by the Corporation is 798.

SLUM CLEARANCE.

Following upon the issue of Circular 1331 by the Ministry of Health in April the Public Health Committee, and subsequently the City Council, approved :—

(A) The subjoined report made by the Medical Officer of Health on the organisation of the work of slum clearance, and

(B) The five years programme which follows.

(A) PRELIMINARY REPORT, HOUSING ACT, 1930—CLEARANCE AND IMPROVEMENT AREAS, MINISTRY OF HEALTH'S CIRCULAR 1331.

Circular 1331 issued on the 6th April, 1933, on this subject by the Ministry of Health must be taken in conjunction with the programmes which were required by the previous Government as indicating a decision to deal with the slum problem as a whole. The Circular requests that the Council " will regard the matter as one which requires urgent attention." Under these circumstances it would appear that the local authority is bound to make such provision as is necessary for the complete ascertainment of the condition of the slum property in the City, since no judgment is possible as to the type of action to be taken in any given area unless such adequate and recent survey is available. The first essential, therefore, is that a sufficient staff be appointed to carry this work through.

In the Circular it is assumed that the house-to-house records in existence in the areas of local authorities will be sufficient to enable a local authority to come to a decision as to the action necessary. The house-to-house examinations are spread over a considerable series of years and therefore cannot be taken as an accurate indication of the condition of any group of property at the time of representation. The only survey that is permissible for the purpose of representation of an area is one made of the complete area at a recent date.

Further, the house-to-house records do not cover complete areas. It is certain, therefore, that to carry out the programme outlined by the Government special surveys are necessary. The likelihood of such a need is expressed in the last sentence of paragraph 6 of the Circular, viz.: "if in any case the records available to the local authority are insufficient for the purpose of framing such a programme, I am to request that the necessary survey and inspections may be put in hand."

Again, in the Circular it is suggested that the problem of slum clearance can be dealt with in the period of five years. The number of houses in Manchester which fall below a reasonable standard of fitness and which properly come within the purview of any comprehensive scheme to deal with slum property has in previous reports been shown to be approximately 30,000. In fact, in the books of the Department considerably more than that number of houses are classified in this group. The number 30,000, therefore, is a minimum number and should be recognised as such.

A comprehensive scheme for dealing with clearance and improvement areas in the City, therefore, must be regarded as an undertaking which will figure in the work of the City Council for a period that will more reasonably be estimated at, say, 15 to 20 years in duration.

The practical issue consequently is that the Corporation is faced with the need under the requirements of the Ministry's Circular of projecting work which will be carried out in the first five years of a prolonged effort to remedy bad housing conditions in the City.

The experience already at hand indicates the difficulty of estimating what will be the normal rapidity of slum clearance work when the scheme is fully established and working.

The Medical Officer of Health, therefore, attaches to this report (as an indication of the earlier work which would naturally arise in slum clearance) a list of areas which have already been visited by the Joint Housing and Public Health Committee as areas more particularly demanding urgent attention. The houses and business premises in those areas total 9,544. This figure excludes the Hulme Clearance Area, which is now under consideration and therefore does not come within the proposed programme.

The actual programme to be submitted to the Ministry in September next, showing the proposals of the City Council for the next five years, has not yet been prepared. It is certain, nevertheless, that a great increase of the activity in surveys to be done, and in the number of such surveys, must take place to enable the City Council to know exactly not only the areas to be dealt with but the type of action to be taken in each area. The urgency of the requirements of the Ministry's Circular suggests that the figure of 2,000 to 3,000 per annum is not likely to be considered excessive, subject to the practicability of dealing with that amount of bad housing each year.

A map of the City is shown with definitely bad areas marked in red and other areas shown in yellow, where the housing, though probably not quite as bad, is definitely of the type calling for action under Part 1 of the Housing Act, 1930.

The general indications at present are that the first four areas to be dealt with after the Hulme Clearance Area are the following :—

No.	Ward	Bounded by	Dwelling-houses	Business Premises
1	Collegiate ..	Cheetham Hill Road, St. Chad's Street, Stanley Street, Knowsley Street, Red Bank, along the rear wall of Ebenezer Place and continuing across the railway to the River Irk, along the river to Roger Street, Roger Street and Red Bank, and to River Irk and back to Cheetham Hill Road ..	427	94
2	St. Clement's	Store Street, Great Ancoats Street, Adair Street, St. Andrew's Street, St. Andrew's Square, Arundel Street, Phœbe Street, Helmet Street, boundary of recreation ground to Fairfield Street, North Western Street, boundary of the railway and goods yard to Sheffield Street, Boad Street, back to Store Street	1,017	76
3	Collyhurst ..	Collyhurst Street, Rochdale Road, Queen's Road to L.M.S. Rly. Arch, Miles Platting along the course of the railway to the point of commencement at Collyhurst Street (area within Red Line on Plan contains 446 dwelling-houses and 35 business premises)	2,283	112
4	Openshaw and St. Mark's (West Gorton)	Pottery Lane, north wall of the passage adjoining the Railway Hotel and behind 3/15, James Street, to Brook Street, along Brook Street and the face of the wall of the Openshaw Brewery to the Corn Brook; along the brook in an easterly direction to Gardner Street, along Gardner Street and Park Street to boundary wall of the St. Francis Roman Catholic Church, along the said wall to Gorton Lane, returning along Gorton Lane, Gorton Road to Pottery Lane ..	441	51
		Totals	4,168	333

Of these areas, a survey has been made sufficiently recently of Red Bank and West Gorton to enable a decision as to the type of action required in these districts to be arrived at. This leaves a balance of 3,488 properties to be surveyed in detail to enable a decision to be reached on the four areas alone in time for the return to the Ministry in September. Based on the experience of the work possible to individual inspectors, eight inspectors will be required to work continuously throughout the summer to survey these properties adequately.

Further, there is the additional work involved in the remaining "red" areas, and the "yellow" areas which may be taken as representing the slum housing of the City. It is therefore recommended as necessary that in place of the existing staff of four Special Housing Inspectors there should be created a Special Housing Section, consisting of a Senior Housing Inspector with a staff of eight inspectors for survey and general clearance work. It is suggested that two of the four additional Housing Inspectors shall be permanent and two shall be District Sanitary Inspectors transferred for this purpose during the next four months. It is probable that as the work develops in the coming years this permanent staff will require augmentation, but it is considered inadvisable at the present time to establish a permanent staff beyond what is immediately seen to be necessary.

In arriving at this recommendation, very careful consideration has been given to the maximum amount of work which can efficiently be carried out daily in these housing surveys and the ancillary work arising in connection with the actual clearance of the areas. This ancillary work involves in each case a second survey (this is required by the procedure laid down in the Government Circulars dealing with slum clearance), supervision of disinfestation of persons and furniture, and such other detailed work in connection with the removal of individual families.

The appointment of a Senior Housing Inspector is clearly necessary, inasmuch as there must be one officer in practical and personal contact with this work who will be the official witness at Ministry Inquiries for the City in so far as the actual detailed conditions at houses and other premises are concerned. This officer must have close personal knowledge of the properties dealt with, and will be responsible for the preparation of the evidence of this side of the work for these purposes. It will also be his duty to supervise and regulate the work of the Special Housing Staff and to collate the evidence collected in the surveys upon which, to a major extent, will be determined action in the direction of clearance or improvement. It is evident that the functions of this officer will be such as to make it essential that he be an individual of such ability and address as to represent the City adequately in the functions outlined.

R. VEITCH CLARK,
Medical Officer of Health.

April 24th, 1933.

No. 836.

CITY OF MANCHESTER.

HOUSING ACT, 1930.

(B) REPORT OF THE HOUSING AND PUBLIC HEALTH COMMITTEES ON A PROGRAMME OF WORK UNDER THE HOUSING ACT, 1930.

The Housing and Public Health Committees present the report which follows. While as a matter of convenience the report is a joint one it must, of course, be understood that the Committees respectively assume responsibility only for that portion of the report which relates to the work referred to them by the Council.

1. In April last a circular letter from the Ministry of Health to all Housing Authorities in England and Wales was received in which it was stated that :—

> " In the view of His Majesty's Government the present rate at which the slums are being dealt with is too slow and they look for a concerted effort between the central government and the local authorities immediately concerned to ensure a speedier end to the evil, and an end within a limited time. His Majesty's Government are further of opinion that present conditions are favourable to the success of a vigorous campaign of slum clearance. I am, therefore, to request that your Council will take this letter into their immediate consideration, and will regard the matter as one which requires urgent attention."

2. By the circular the Ministry of Health requests the various local authorities to prepare and adopt a programme containing a list of areas in which clearance, and in which improvement by way of reconditioning or otherwise, is necessary, with information as to the number of houses to be demolished and of the number of their inhabitants ; a time table for the initiation, progress, and completion of action to secure clearance or improvement as the case may be ; a time table of rehousing co-ordinated with the displacements contemplated by the time table of clearance operations ; and to make an immediate beginning with the programme by the declaration as clearance or improvement areas of such areas as can be immediately dealt with.

3. The Minister of Health requests that he should be supplied with a copy of the programme adopted by the local authority by the end of September, 1933, and that the programme should, as far as practicable, be drawn on the basis of clearing all areas that require clearance not later than 1938.

4. On the receipt of the Ministry of Health's circular letter the Medical Officer of Health proceeded to give consideration to the preparation of the programme required, and, as a consequence, reported to the Public Health Committee at a meeting on the 25th April last that the house-to-house examinations are spread over a considerable series of years, and, therefore, cannot be taken as an accurate indication of the condition of any group of property at the time of representation, and that the only survey that is permissible for the purpose of the representation of an area is one made of the complete area at a recent date. Further, that as the house-to-house records do not cover complete areas it is certain that, to carry out the programme outlined by the Government, special surveys are necessary. Accordingly the Public Health Committee approved of the appointment of certain housing inspectors for the purpose of conducting a special housing survey, and to-date the conditions in four areas of the City have been investigated, and a separate report thereon recommending the declaration of such areas as clearance areas is to be presented to the Council.

5. These four areas are designated as " Red Bank," " Collyhurst," " St. Clement's," and " West Gorton," and from the detailed information now in the possession of the Medical Officer of Health in relation to these areas, it will be possible to supply the Ministry of Health with the particulars required.

6. The number of houses affected in the four areas referred to is 3,602 ; the persons to be displaced 15,303 ; and the number of families is 4,125.

7. Assuming the Council approve of the representations of the Medical Officer of Health in regard to the four areas referred to, which form the subject to a separate report to the Council, and also that the Ministry of Health approve of the Clearance Orders, it is estimated that the clearance of the Collyhurst and West Gorton areas will commence during the next year and be completed during 1935, and that the clearance of the Red Bank and St. Clement's areas will be commenced and completed in 1935.

8. The Medical Officer of Health has informed your Committees that there are 30,000 houses in the City, including those in the Hulme Clearance Area and the four other areas referred to, which may require treatment under the Act (either by way of inclusion in clearance or improvement areas, or as individual houses), and that the survey of the conditions of such houses will be completed during the next five years; and, therefore, as the survey progresses, proposals for dealing with the conditions which are disclosed can then be formulated.

9. It will not be possible to carry out schemes, as the Ministry suggest, for the clearing of all areas which may require clearance by 1938, but it is anticipated that it will be possible to deal with 15,000 houses by that date, and your Committees, therefore, recommend that this figure should be approved as a programme, and that the Ministry should at the same time be informed of the Council's intention to deal with the whole of the houses which require treatment under the Act as speedily as circumstances permit.

10. It should clearly be understood that separate reports will be submitted to the Council from time to time dealing with clearance or improvement areas as they are represented by the Medical Officer of Health, and these reports will contain the necessary details as to the proposals of the Public Health and Housing Committees in regard to the rate of clearance, and the provision of any necessary rehousing accommodation.

11. It is also recommended that the Town Planning and Buildings Committee should proceed with the utmost dispatch in preparing a plan for the redevelopment of the developed portions of the City, particularly in relation to areas which are likely to be dealt with under the Housing Act, 1930.

On behalf of :—

Public Health Committee,
R. G. Edwards,
Chairman.

Housing Committee,
H. F. Robinson,
Chairman.

Town Hall, Manchester,
19th September, 1933.

Report of the Finance Committee on General Programme of Slum Clearance and Improvement Work under Housing Act, 1930.

1. In accordance with Standing Order 69 (12), the Finance Committee present to the Council the report of the Housing and Public Health Committees upon the general programme of slum clearance and improvement work to be performed under the Housing Act, 1930.

2. The Minister of Health has requested local authorities to submit to him by the 30th September, 1933, a five year programme of clearance and improvement work, based upon clearance of all areas that require clearance to be executed not later than 1938, and the report of the Housing and Public Health Committees is made in order that the Council may comply with the Minister's request.

3. The Medical Officer of Health states that there are 30,000 houses in the City which may require treatment by clearance or improvement, and that it will be possible to deal with 15,000 houses within the five year period—the remaining houses to be treated after the close of that period.

4. The Collyhurst, Red Bank, St. Clement's, and West Gorton Clearance Areas proposed in the report coincident with this one, together with the Hulme Clearance Areas, form part of the suggested programme of treating 15,000 houses.

5. Each definite proposal for clearance or improvement of specific areas will be the subject of a separate report dealing with the financial aspect of each proposal.

6. It is impossible to give any certain estimate of the annual charges which would accrue year by year in respect of this scheme owing to the period covered by the programme and the necessarily incomplete data as to the methods of rehousing which will be required to accommodate the displaced persons. Assuming, however, that the present scale of contribution from the Rate remains unaltered and 3,000 new houses a year are constructed, the annual charge to the Rate will increase by £11,250 per annum, rising ultimately to £56,250 a year at the expiration of five years.

7. The execution of the proposed scheme, if carried to completion, will involve a very large expenditure of capital monies. On the assumption that an equivalent number of houses, that is 15,000, are erected in the next five years, the capital expenditure for rehousing may be estimated to lie between a minimum of £5,850,000 and a maximum of £7,875,000, according to the type of rehousing accommodation constructed, apart from any consequential costs of ancillary services.

8. Notwithstanding the heavy financial commitments involved it should be noted that there is a duty imposed upon the Corporation by the Housing Act, 1930, to review the housing conditions in their area and to frame proposals for dealing with the ascertained housing conditions.

9. The Finance Committee point out the impracticability of giving definite information to the Council on the financial aspects of this matter, but stress the importance of the co-ordination of the clearance and improvement operations of the Council under the Housing Act, 1930, with the town plan for the redevelopment of the built-up portions of the City, which will be submitted to the Council at a later date, in order to secure the economic performance of the execution of the scheme of redevelopment of the City which must necessarily follow upon the clearance of properties on the scale contemplated in the report.

On behalf of the Finance Committee,

R. NOTON BARCLAY,
Chairman.

Town Hall, Manchester,
September 28th, 1933.

HULME CLEARANCE ORDERS, 1, 2, 3.

The clearance orders made by the City Council, following upon the report on these areas by the Medical Officer of Health in the previous year, were the subject of a Ministry of Health inquiry held during the months of July and August. The areas of the inquiry dealt with 1,076 dwelling-houses and 62 business premises. In October the Minister confirmed the orders subject to the exclusion of certain properties. The exclusions were nearly all business premises, only two houses being removed from the operation of the clearance order. Five other houses were excluded on an undertaking being given that they would no longer be used for dwelling purposes.

Representations made during the Year.

In September the Medical Officer of Health officially represented the following areas as clearance areas, viz. :—

Red Bank.

Collyhurst.

St. Clement's.

West Gorton.

The City Council on the 4th October declared the areas referred to above to be clearance areas under Section 1 of the Housing Act, 1930.

HOUSING ACT, 1930.

Table of Clearance Areas Represented.

Area	Represented Premises		Exceptions by Minister		Population	Families for Re-housing	Date		
	Dwelling-houses	Business Premises	Dwelling-houses	Business Premises			Representation	Enquiry by Ministry of Health	Confirmation of Order
ulme	1,076	62	14	20	4,767	1,257	27th July, 1932	25th July, 1933	7th Nov., 1933
ed Bank ..	366	17			1,703	532	8th Sept., 1933		
est Gorton	390	26			1,833	444	8th Sept., 1933		
llyhurst ..	1,848	72			7,897	2,019	8th Sept., 1933		
. Clement's	998	47			4,267	1,130	8th Sept., 1933		
Totals ..	4,678	224			20,467	5,382			

These four areas contain a total of 3,602 dwelling-houses and 162 business premises.

Surveys made during 1933.

During the year 4,083 dwelling-houses and 264 business premises and 8 individual houses were surveyed.

Clerical and Statistical aspect of the Work.

In order that the work may proceed on well ordered lines, wherever possible forms have been designed for the collation of all information in a uniform manner. The statistical information requisite for my representation is extracted by the clerical staff coincident with the progress of the survey, so that the complete statistical record of any area is available for the purposes of the representation of an area within a few days of the completion of the survey, similarly quadruplicate forms are prepared setting forth the full family circumstances of every householder and lodger family which represent a definite housing need. These forms are then despatched to (1) the Town Clerk, (2) the City Treasurer, (3) the Housing Director. The Town Clerk is thus able to proceed, from the information contained in the form, with the ascertainment of the actual owners of the property requisite for the compilation of the official lists of ownerships.

The City Treasurer is enabled to ascertain, from the information supplied as to wages and other sources of income, the ability of the persons to be dispossessed to pay the rent of a Corporation house large enough for the family.

The basis of the ascertainment of the capacity to pay is the Atwater-Clark scale of the cost of living as used for many years in the Public Health Department.

From these records, also, the Housing Director obtains the information required by him for the calculation of the number, size, and type of houses to be built for the dispossessed families.

Disinfestation.

In considering the question of rehousing families from slum clearance houses, regard has been had to the prevention of families living in vermin infested houses transferring vermin to their new habitations.

This question is of vital importance in view of the fact that 70 per cent. of the houses inspected in clearance areas during the year were found to contain vermin.

The only thoroughly effective method of disinfestation is fumigation by hydro-cyanic acid gas.

A scheme is now in operation whereby families living in bug infested property are enabled to have themselves and their belongings effectively disinfested prior to removal to new houses.

On the day of removal a furniture van is sent to the house to collect the furniture, bedding, and other belongings, which are taken to the disinfecting station, where the contents of the van, with the exception of the bedding, are subjected to hydro-cyanic acid gas. On completion of the process the fumigator gives a certificate that the articles are free from gas.

The bedding is passed through the steam disinfector. While this is being done the personal clothing of the family is disinfested and the individual members are given the opportunity, if they desire it, of a bath. The whole process is carried out in one day and the family, with their belongings, installed in the new house.

The cost of removal and disinfestation is borne by the Corporation, but some of the tenants have made contributions towards the removal expenses.

House Inspection.

Housing Act, 1925, and Housing Consolidated Regulations, 1925 to 1932.

The work under this Act and these regulations has been considerably reduced during 1933 owing to the drafting of a considerable proportion of the inspectorate to assist in the special housing work and the work ancillary to these services arising out of slum clearance activity. Formerly the house-to-house inspections totalled ordinarily about 10,000 per annum. This year these primary routine house-to-house inspections numbered 5,118. The houses thus inspected have been classified as follows :—

Unfit for human habitation	4,614
Minor defects	225
No defects recorded	279

Details of these inspections are given in Tables A, B, and C (pages 266–268).

Under General Public Health Acts.

Primary inspections, mainly as a result of complaints, have been made at 14,964 houses. Defects found at these houses have been dealt with as follows :—

(*a*) At 5,293 houses defects have been remedied as a result of personal letters or informal notices.

(*b*) At 1,023 houses the defects have been dealt with by statutory notice under the general Public Health Acts and remedy effected by the owners in 994 cases and by the local authority in default in 234 cases.

(*c*) *Section* 17, *Housing Act*, 1930.—Notices have been served in respect of 367 houses. Repairs have actually been effected under this section at 880 houses. (These include "carry-overs" from 1932.) In 46 cases the work was done by the local authority in default.

Total Number of House Inspections.

The total number of inspections (including revisits) of houses during the year for all purposes was 86,764. A summarised analysis of these figures is to be found in Table D, p. 269, and Table 3., p. 284.

Defective Houses on List for consideration of Committee.

There are many thousands of houses in the city which are in such a condition as to render reconditioning impracticable. In due course they will be dealt with under the Housing Act, 1930.

In the meantime defects of an urgent character such as choked drains. leaky roofs, broken floors, and yard and passage surfaces demand attention. Letters were sent to owners regarding urgent defects at 3,151 such houses and the work was carried out at 2,570. It was necessary to serve statutory notices with respect to urgent defects at 388 houses.

OVERCROWDING.

Difficulty continues to be experienced in dealing with overcrowding owing to the shortage of suitable houses at rentals which families of limited means can afford. Action has of necessity therefore been limited to the very worst cases only.

Representations have been made to the Housing Director in 86 cases with a view to overcrowded families being granted tenancies of Corporation houses or flats. During the year such accommodation has been provided for 63 families, including nine reported during 1932 to be living under overcrowded conditions.

At 32 other houses overcrowding has been abated subsequent to cautionary letters from the department.

Bedrooms are frequently found to be overcrowded in houses where other rooms, such as parlours (which could be available for sleeping), are used but little. Improvements in this direction have been effected in many cases after the occupiers have been cautioned by the inspectors.

CLEANSING OF HOUSES AND APPURTENANCES.

Efforts are made by the department towards improving the standard of cleanliness in and about dwelling-houses.

Frequently the inspectors find it necessary to caution housewives regarding the dirty conditions prevailing at their homes.

In order to render assistance to people in low financial circumstances the Committee, on the certificate of the district inspector, provides packets of lime, for limewashing, gratis and loans brushes free of charge. During the year 2,812 brushes were loaned and 29,477 lbs. of lime distributed.

In 43 cases it was necessary to serve statutory notices for the cleansing of dwelling-houses, which were complied with in 35 instances.

HOUSES–LET–IN–LODGINGS.

Houses-let-in-lodgings are houses which are occupied by more than one family of the working classes. They are controlled by byelaws. These byelaws provide for registration and inspection, prevention of overcrowding and mixing of sexes, maintenance of cleanliness and ventilation, provision of water supplies, sinks, and closet accommodation, etc.

At the commencement of the year 1,613 houses were on the register. During the year 106 were registered and 273 removed from the register, the total at the end of the year being 1,446.

Day inspections numbered 5,262 and night inspections 265.

Verbal cautions were given by the inspectors regarding dirty conditions at 39 houses, all of which were subsequently cleansed.

Statutory action under the byelaws was necessary in the following cases :—

Requirements	Served		Complied with	
	Notices	Houses	Notices	Houses
Furnishing particulars preliminary to registration	215	215	189	189
Provision of additional water-closets	8	8	2	2
Provision of sinks and water taps.	86	126	34	46
Cleansing of walls and ceilings ..	13	23	11	20

OFFENCES REPORTED TO COMMITTEE.

	Cases reported	Ordered to be summoned	Work done before issue of summons	Cautioned	Summoned	Fined	Withdrawn	Dismissed	Amount of fines
									s. d.
ailing to furnish particulars	11	11	11	..	..	..	..	..	..
on-compliance with notices *re* water supply	13	13	12	1	..	..	..	..	..
on - compliance with notices to cleanse, etc.	5	5	5	..	..	..	..	..	..
efusing to allow inspection	2	2	..	..	2	1	..	1	5 0
bstructing inspector .	2	2	..	..	2	..	1	1	..
vercrowding	9	..	..	9	..	..	..	..	..
ixing of sexes	7	..	..	7	..	..	..	..	..
Totals	49	33	28	17	4	1	1	2	5 0

"Farmed" Houses.

The living conditions in this type of dwelling, in spite of all that can be effected by regular supervision, continue to give cause for serious dissatisfaction both to the Public Health Authority and to the general public. For wider social and economic reasons, as well as from the public health aspect, it is imperative that at an early date more effective powers should be conferred upon local health authorities for the control of this type of housing property. The health deficiencies which exist are many, but outstanding amongst them is the frequent packing of a family (often of considerable size) in one room for all purposes. The evil effects of such a condition can scarcely be overstated, especially when aggravated by the incidence of sickness or childbirth.

During the year a special report on "farmed" houses was prepared at the request of the Public Health Committee. This report is reproduced in full on pages 317 to 320.

Municipal Hostels.

"Walton House," the hostel for men, was erected in 1899 upon the site of a condemned area in Harrison Street, Ancoats.

There are 465 beds, in separate cubicles, which are let at 1s. per night, or 6s. 6d. per week. Residents have the use of the dining, smoke, reading and writing rooms, and facilities are available for cooking, personal laundering, and boot repairing without charge.

The shop offers a variety of foods and other commodities, and wholesome meals may be obtained from the kitchen at a moderate tariff.

Almost all the accommodation is taken up by men who have made the hostel their permanent home, and during the year 1,514 applications for beds have had to be refused owing to the hostel being full.

"Ashton House," the hostel for women, is situated in Corporation Street, City. Erected in 1910. It is a more modern building than the men's hostel, although similar facilities and conditions exist.

There is accommodation for 210 persons in separate cubicles, 63 of which on the first floor are let at 1s. per night, or 6s. per week; the remainder, upon the second and third floors, at 10d. per night, or 5s. per week.

During the year ended 31st March, 1934, accommodation has been found for 50,165 persons, an average of 140 per night.

CARAVANS.

There are a number of caravans, or movable dwellings, in the City which are used for human habitation. They can be divided into two groups. One group is occupied by migrants such as travelling showmen and gypsies, whilst the other group consists of vans which remain on sites for long periods.

This type of dwelling is controlled by byelaws which are administered by the Public Health Committee. These byelaws require adequate water supply, closet accommodation, receptacles for refuse, and provide for steps to be taken for the prevention of nuisances and the spread of infectious disease.

The Town Planning and Buildings Committee are also empowered under section 18 of the Manchester Corporation Act, 1891, to take action against any person who erects or sets up in the City any structure or erection of a movable or temporary character without first obtaining a licence from the Corporation. (Any tent which does not remain for a longer period than seven days is exempt from this Act.)

During the year 428 inspections of caravans were made and copies of the byelaws served in 96 instances. Thirty-six cases were reported to the Committee for non-compliance with the byelaws. In 31 cases the caravans were removed before summons could be issued. In the remaining five cases legal proceedings were pending at the end of the year.

Eighteen caravans were referred to the City Architect for action under section 18 of the Manchester Corporation Act, 1891.

109 caravans are reported to have been removed during the year.

At the end of the year the caravans in the City numbered—

Occupied.	111
Unoccupied...	22
Total ..	133

RENT RESTRICTIONS ACTS.

Nine applications were made by tenants during the year for certificates that the houses in their occupation were not in a reasonable state of repair.

One application was withdrawn and eight certificates were granted.

WORK DONE BY DISTRICT SANITARY INSPECTORS IN CONNECTION WITH INFECTIOUS DISEASES.

Infectious cases investigated		4,977
Primary visits to infected houses		4,098
Subsequent visits to infected houses		1,310
Inspections *re* tuberculosis		14,394
Other visits *re* tuberculosis		3,366
Visits to contacts:—		
Smallpox	572	
Scarlet Fever	102	
Diphtheria	92	
Others	25	
		791
*Rooms fumigated by inspector		2,629
Rooms disinfected by Corporation workmen		1,523
Rooms disinfected by tenants		4,510

* Includes four wards at a hospital.

Table A.

Details of House-to-House Inspections made during 1933 under Section 8, Housing Act, 1925.

Wards	Number of Houses Inspected	Number of Rooms per House								Business Premises		Overcrowding		
		1	2	3	4	5	6	7	Over 7	Part	Total	Registrar-General's Standard	Manchester Standard	Social Standard
All Saints'	35	..	1	3	26	2	1	1	1	10	6	..	5	3
Ardwick	142	..	..	27	30	52	22	5	6	16	5	3	12	8
Beswick	440	..	5	26	348	44	15	1	1	53	18	6	54	25
Blackley	214	..	..	25	105	64	14	5	1	53	12	2	17	13
Bradford	164	..	..	27	100	20	10	5	2	20	4	5	37	21
Cheetham	182	..	..	7	79	71	14	2	9	14	..	..	21	13
Chorlton-cum-Hardy	290	..	..	4	110	64	88	22	2	15	..	..	5	1
Collegiate Church	189	..	..	7	56	59	61	5	1	20	9	..	50	34
Collyhurst	184	..	..	25	83	50	25	1	..	6	..	3	31	22
Crumpsall	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Didsbury	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Exchange	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gorton North	241	..	..	74	111	54	1	1	..	30	3	2	31	21
Gorton South	56	..	1	6	42	7	..	..	..	7	2	..	7	6
Harpurhey	46	..	..	2	41	3	..	..	..	2	..	..	5	3
Levenshulme	391	..	..	45	86	168	90	2	..	6	3	..	17	9
Longsight	195	..	..	5	122	24	44	..	..	20	13	2	15	3
Medlock Street	196	..	1	6	94	69	10	13	3	32	5	..	9	6
Miles Platting	184	..	..	74	72	32	3	2	1	20	2	13	40	30
Moston	139	..	..	1	96	33	9	..	..	4	1	..	8	3
Moss Side East	75	..	1	1	4	8	14	7	40	20	14	..	1	..
Moss Side West	109	..	..	..	6	62	3	15	23	9	..	..	1	..
New Cross	384	..	37	36	216	60	20	5	10	64	111	21	89	55
Newton Heath	148	..		12	100	33	1	1	1	17	2	1	5	3
Openshaw	284	..	5	169	63	45	1	..	1	68	17	13	41	8
Oxford	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rusholme	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Ann's	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Clement's	128	..	9	47	49	19	2	1	1	26	17	11	27	12
St. George's	226	..	..	38	125	55	4	4	..	33	13	3	22	5
St. John's	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Luke's	120	..	..	..	10	21	45	31	13	19	8	..	1	..
St. Mark's	173	..	4	22	59	46	42	..	..	28	10	3	10	1
St. Michael's	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Withington	17	..	..	5	1	1	10	..	..	2	..	..	1	..
Wythenshawe	166	..	..	7	58	67	27	52	2	37	5	2	2	..
Totals	5,118	..	64	701	2.292	1,233	576	134	118	651	280	90	564	305

TABLE D.

DETAILS OF HOUSE-TO-HOUSE INSPECTIONS MADE DURING 1933, UNDER SECTION 8, HOUSING ACT, 1925.

WARDS	Number of Houses Inspected	Want of Cleanliness	Inadequate Light	Inadequate Ventilation	Dampness	Without proper accommodation for		Disrepair	Bad Arrangement	CLASSIFICATION			
												Unfit	
						Food Store	Domestic Washing			No Defects Recorded	Minor Defects	Remediable without reconstruction	Irremediable without reconstruction
All Saints'	35	3	33	34	3	32	13	12	34	..	..	1	34
Ardwick	142	5	62	113	57	140	16	133	140	1	..	3	138
Beswick	440	2	152	147	147	439	26	283	306	..	137	73	230
Blackley	214	..	2	22	55	206	5	41	42	82	..	103	29
Bradford	164	10	30	61	85	158	31	142	88	1	..	89	74
Cheetham	182	4	2	6	105	182	23	153	..	11	13	145	13
Chorlton-cum-Hardy ..	290	1	94	31	83	224	20	122	140	35	11	170	74
Collegiate Church	189	..	99	117	82	189	2	6	189	..	..	..	189
Collyhurst..	184	..	84	125	43	183	6	135	141	..	..	1	183
Crumpsall..	..	..	..	..	..	..	..	..	..	..	..	..	..
Didsbury	..	..	..	..	..	..	..	..	..	..	..	..	..
Exchange	..	..	..	..	..	..	..	..	..	..	..	..	..
Gorton North	241	2	12	102	166	224	33	225	75	..	3	221	17
Gorton South	56	..	..	7	47	56	6	56	..	..	..	56	..
Harpurhey	46	..	1	..	34	46	8	43	..	..	..	46	..
Levenshulme	391	..	15	14	146	317	11	134	20	30	12	348	1
Longsight	195	1	1	1	108	194	16	136	2	2	..	192	1
Medlock Street	196	3	177	195	62	195	26	181	195	..	..	2	194
Miles Platting	184	..	107	151	80	180	39	174	175	..	..	24	160
Moston	139	..	..	..	30	115	3	9	..	54	10	75	..
Moss Side East	75	..	28	4	10	73	14	39	67	7	..	40	28
Moss Side West	109	1	27	1	39	104	6	55	43	..	8	74	27
New Cross	384	4	376	382	253	378	74	273	384	..	..	..	384
Newton Heath	148	..	1	1	64	101	1	107	..	34	9	104	1
Openshaw	284	..	88	218	240	268	22	249	248	..	..	79	205
Oxford	..	..	..	..	..	..	..	..	..	..	..	..	..
Rusholme	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Ann's	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Clement's	128	..	59	94	46	128	39	125	128	..	..	..	128
St. George's	226	2	219	224	134	226	54	151	226	..	..	..	226
St. John's	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Luke's	120	1	19	80	10	120	10	62	100	1	11	91	17
St. Mark's	173	6	41	50	79	172	31	149	69	..	9	119	45
St. Michael's	..	..	..	..	..	..	..	..	..	..	..	..	..
Withington	17	..	6	6	7	6	2	..	..	9	1	1	6
Wythenshawe	166	2	2	27	109	147	15	104	1	12	1	152	1
TOTALS	5,118	47	1,737	2,213	2,324	4,803	552	3,299	2,813	279	225	2,209	2,405

TABLE C.

DETAILS OF HOUSE-TO-HOUSE INSPECTIONS MADE DURING 1933 UNDER SECTION 8, HOUSING ACT, 1925.

No. of Rooms per Tenement	No. of Individuals in Private Families or Tenements			No. of Individuals per Room			No. of Children under 10 years per Family or Tenement			Overcrowding		
	Families or Tenements	Population	Individuals per Family or Tenement	Rooms	Population	Individuals per Room	Families or Tenements	Children under 10	Children per Family or Tenement	Registrar-General's Standard	Manchester Standard	Social Standard
One	—	—	—	—	—	—	—	—	—	—	—	—
Two	64	207	3·23	128	207	1·61	64	49	0·76	10	29	19
Three ..	701	2,578	3·67	2,103	2,578	1·22	701	463	0·66	39	120	56
Four ..	2,292	8,487	3·7	9,168	8,487	0·92	2,292	1,596	0·69	40	330	186
Five	1,233	4,824	3·91	6,165	4,824	0·78	1,233	660	0·53	1	52	28
Six	576	2,404	4·1	3,456	2,404	0·69	576	280	0·48	—	28	13
Seven ..	134	660	4·92	938	660	0·70	134	94	0·70	—	5	3
Over Seven	118	899	7·61	—	—	—	—	92	0·77	—	—	—
Totals	5,118	20,059	3·9	21,958	19,160	0·87	5,118	3,234	0·63	90	564	305

TABLE D.

HOUSING CONDITIONS—YEAR ENDED 31ST DECEMBER, 1933—IN THE FORM REQUIRED BY THE MINISTER OF HEALTH.

General Statistics.

1. *Inspection of Dwelling-houses during the Year.*

(1) (*a*) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	20,082
(*b*) Number of inspections made for the purpose	73,242
(2) (*a*) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925	5,118
(*b*) Number of inspections made for the purpose	18,711
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	4,614
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	225

2. *Remedy of Defects during the Year without Service of Formal Notices.*

Number of defective dwelling-houses rendered fit in consequence of informal action by the local authority or their officers ..	5,293

3. *Action under Statutory Powers during the Year.*

(A) *Proceedings under sections* 17, 18, *and* 23 *of the Housing Act*, 1930.

(1) Number of dwelling-houses in respect of which notices were served requiring repairs	367
(2) Number of dwelling-houses which were rendered fit after service of formal notices—	
(*a*) By owners	834
(*b*) By local authority in default of owners ..	46

(B) *Proceedings under Public Health Acts.*

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied ..	1,023
(2) Number of dwelling-houses in which defects were remedied after service of formal notices—	
(*a*) By owners	760
(*b*) By local authority in default of owners ..	234

ATMOSPHERIC POLLUTION.

Smoke Abatement.

The campaign against atmospheric pollution by smoke from industrial chimneys in the City has been maintained throughout the year. The duties imposed by the smoke clauses of the Public Health Acts are carried out by four smoke inspectors, who devote their whole time to the work of detecting offenders and advising as to the best methods of smoke prevention. Their hours of duty are arranged so as to obtain the maximum amount of supervision over offending chimneys.

The need for regional administration of legislation dealing with smoke is still vital, and Manchester continues to be an active member of the Manchester and District Regional Smoke Committee, whose report appears on page 306.

Manchester is bounded on the westerly, northerly, and easterly sides by a wide industrial belt, in which some of the local authorities fail to exercise to the full the powers they possess for the control of nuisance due to smoke. This is detrimental not only to their own residents but to the citizens of all surrounding areas.

Details of the smoke inspectors' work are given below. Included in the notices are six for "smoke other than black."

Timed observations taken—639.

Revealing black smoke two minutes and over in half-hour periods	119
Revealing black smoke under two minutes	315
Revealing "smoke other than black"	6
Not revealing smoke (taken upon complaints)	192
Exempted chimneys revealing black smoke (included above)	16
Total amount of black smoke observed in minutes	1,009
Average amount of black smoke observed in minutes (per observation revealing black smoke)	2,325
Observations taken and not included above—	
Locomotives on railways	4
Locomotives on highways	1
Special observations not classified	75
Special reports made	147
Complaints from all sources	68
Visits to works, etc., *re* smoke abatement	1,283
Cases reported to Committee	‡110
Cases cautioned or excused by Committee	35
Cases reported to other Committees for action	6
Statutory notices served	40

Magistrates orders to abate smoke nuisance obtained	4
Prosecutions for smoke nuisances	25
Cases in which penalties were imposed	25
Total amount of penalties and costs	£59 2 0
Statutory notices expiring without further action	*47
Statutory orders lapsing for various reasons	5
Approximate number of chimneys	1,090

* Some of these notices were served during 1932.

‡ Includes one from 1932.

Causes to which Smoke Emissions are attributed.

Of the 110 cases reported to Committee where chimneys emitted smoke two minutes or over in the half-hour period, the nuisance was found to be due to the causes enumerated hereunder:—

Bad firing	78
Unsuitable fuel	9
Bad firing and unsuitable fuel	3
Firemen having other duties to perform	2
Fireman having other duties to perform and bad firing	1
Insufficient boiler power	2
Structural defects in plants	8
Alterations to plants in progress	5
Accidental causes	2

It is satisfactory to note that many employers afford facilities for their engineers, firemen, and boiler attendants to take advantage of the lectures given at the School of Technology on fuel economy and smoke abatement.

Firms frequently seek the advice of the inspectors with the object of smoke elimination, and in many cases are ready and willing to adopt the advice given, resulting in reduction of smoke emission and fuel costs.

FACTORIES, WORKSHOPS, AND SHOPS.

Factory and Workshop Act, 1901.

During the year, 7,882 inspections were made in connection with the cleanliness, ventilation, overcrowding, and structural conditions in workshops, and with the means of escape in case of fire and sanitary accommodation in factories and workshops.

In addition, 5,368 inspections of bakehouses have been made (see report, page 250), 95 complaints and 997 reports were received from, and 356 reports referred to, H.M. Inspector of Factories.

Workshops.

Want of cleanliness or sanitary defects were reported in 68 instances, which were dealt with as follows:—

Insanitary Conditions Reported.

Want of cleanliness	52	
General defects	16	
	—	68

Remedied after Cautions.

Want of cleanliness	52	
General defects	20	
(Includes 5 from 1932.)	—	72

Notices Served.

To cleanse and limewash	3	
To remedy defects	4	
	—	7

Notices complied with.

To cleanse and limewash	3	
To remedy defects	4	
(Includes one notice outstanding from 1932.)	—	7

At the end of the year one notice to remedy defects was outstanding.

No infringements were reported to Committee.

	Factories	Workshops	Total
Number on register at end of 1932	3,362	2,215	5,577
Number registered during the year	113	65	178
Number discontinued during the year	99	116	215
Number on register at end of 1933	3,376	2,164	5,540

Outworkers.

Two female sanitary inspectors are engaged on this work.

The provisions of the Factory and Workshop Act with relation to outworkers have been observed. These provisions aim at work being carried out under sanitary conditions and at premises free from infectious disease.

270 firms in the City employ 1,246 outworkers, of whom 1,098 reside in the City. The remaining 148 are in the districts of other local authorities, to whom lists giving the names and addresses have been sent.

5,498 visits have been paid by the two female inspectors.

Five houses were found to be dirty and were cleansed after the occupier had been cautioned.

General defects were reported at five premises. In three instances the defects were remedied, and two cases were outstanding at the end of the year.

Outwork was found to be carried on at one place under very unsatisfactory conditions. Quilts were being made in a small, dark back kitchen. The whole house was dirty. The window frames were broken and partially covered with boards. The occupier was cautioned, resulting in the house being cleansed throughout, the work removed to another room which was larger and well lighted, and panes of glass were provided and fixed to the kitchen windows.

Generally the standard of cleanliness in outworkers' houses is satisfactory, and no case of infectious disease was reported.

Sanitary Accommodation at Factories and Workshops.

The sanitary accommodation at workshops has been inspected, and complaints with regard to insufficient accommodation at factories have been dealt with.

Twenty cases of insufficient accommodation at factories and workshops have been referred for action to the Chief Technical Assistant.

Thirty-five instances of minor defects in sanitary accommodation were reported and remedied without service of notice.

Three similar cases outstanding from 1932 have been satisfactorily completed.

Means of Escape in Case of Fire.

The requirements of the Factory and Workshop Act, 1901, and of the byelaws made thereunder relating to the provision and maintenance of means of escape in case of fire have received attention.

Seventeen reports of factories and workshops not supplied with adequate means of escape in case of fire, and eight reports regarding emergency doors and windows not being properly marked, were referred for action to the Chief Technical Assistant of the department.

Statutory certificates were issued on the authority of the Committee in connection with 19 buildings where the means of escape were satisfactory and such certificates necessary.

In 35 cases where the means of escape were not being maintained in accordance with the Act, cautionary letters were sent or verbal cautions given, all of which were complied with, in addition to 11 outstanding from 1932.

One infringement of the fire escape provisions of the Act was reported to the Committee and legal proceedings ordered. The necessary work was executed before summons was issued.

SHOPS ACTS.

Number of inspections during 1933	18,443
Number on register at end of 1932	20,106
Number registered during the year	847
Number discontinued during the year	750
Number on register at end of 1933	20,203
Number of cautionary circulars sent *re* failure to exhibit prescribed form *re* assistants' half-holiday	57
Number of such circulars complied with (including 9 sent in 1932).	64
Number of cautionary circulars sent for failing to exhibit abstract of the Act *re* employment of young persons	15
Number of such circulars complied with (including 6 sent in 1932) ..	20

OFFENCES REPORTED TO COMMITTEE.

Nature of Offence	Proceedings			Magisterial Proceedings					
	Number reported	Ordered to be summoned	Cautioned	Summoned	Fined	Ordered to pay costs	Dismissed	Fines	Costs
								£ s. d.	£ s. d
Did not exhibit the prescribed form correctly stating the shop assistants' half-holiday	51	14	37	14	8	5	1	5 5 0	1 5
Shops open in contravention of closing orders	9	3	6	3	3	..	..	3 10 0	..
Shops open in contravention of Hairdressers' and Barbers' Shops (Sunday Closing) Act, 1930	5	2	3	2	1	1	..	0 10 0	0 5
Shops not closed for weekly half-holiday..	1	..	1	..	..	..	..	..	..
Did not exhibit abstract as to young persons in shops	3	1	2	1	1	..	..	1 0 0	..
Totals	69	20	49	20	13	6	1	10 5 0	1 10

Forty-three orders for exemption from compulsory closing, or for "fixing the closing day," or for "fixing the closing hour" for the several days of the week are in operation in the City, and affect many trades and businesses. An order for exemption from compulsory closing was granted during the year for shops trading in seeds, plants, shrubs, and trees.

TABLE 2.

FACTORIES, WORKSHOPS, AND WORKPLACES.

1.—*Inspections.*

Premises	Number of		Occupiers prosecuted
	Inspections	Written Notices	
Factories (including factory laundries) ..	2,614	57	..
Workshops (including workshop laundries)	10,636	34	..
Workplaces (other than outworkers' premises)	..	..	..
Total	13,250	91	..

2.—*Defects Found.*

Particulars	Number of Defects			Prosecutions
	Found	Remedied ‡	Referred to H.M. Inspector	
*Nuisances under the Public Health Acts :—**				
Want of cleanliness	83	91	..	..
Want of ventilation	..	..	..	..
Overcrowding	..	..	..	..
Want of drainage of floors ..	..	..	..	..
Other nuisances	24	29	..	..
Sanitary accommodation—				
Insufficient	3	1	..	..
Unsuitable or defective ..	38	38	..	..
Not separate for sexes ..	6	9	..	..
Offences under the Factory and Workshop Acts :—				
Illegal occupation of underground bakehouse (S. 101) ..	..	..	..	..
Other Offences :—				
Excluding offences relating to outwork and offences under the sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921	60	187	..	..
Total	214	355	..	..

---

* Including those specified in sections 2, 3, 7, and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

‡ Includes some defects reported prior to 1933.

OPEN MARKETS.

Thirty-seven visits have been made during the year to open markets, with a view to the places being kept as satisfactory as possible, having regard to the limited powers of control.

These places cause serious concern, as considerable quantities of foodstuffs are sold under conditions which are unhygienic, with the consequent danger of food contamination.

Steps are being taken with a view to inclusion in the next Parliamentary bill of powers to require adequate water supply, paving and drainage, water-closet and urinal accommodation, and accommodation for refuse.

The Manchester Corporation Act of 1934 includes byelaws dealing with the above matter.

OFFENSIVE TRADES.

Offensive trades are controlled by the provisions of the Public Health Act, 1875, Public Health Acts Amendment Act, 1907, and the Public Health Act, 1925.

When consent is given to the establishment of an offensive trade it is subject to requirements of the Medical Officer of Health being fulfilled, and the registration is limited to such period as may be determined by the City Council.

At the end of the year the undermentioned offensive trades were being carried on at 804 registered premises :—

Blood Boiling ..	1	Gut Scraping	3
Bone Boiling ..	1	Cattle Food Manufacturing	1
Soap Boiling ..	6	Poultry Food Manufacturing	1
Tallow Melting ..	3	Pickle and Sauce Manufacturing ..	10
Tripe Boiling ..	6	Rag and Bone Dealing	33
Fish Curing	1	Rubber Paste or Solution Spreaders..	12
Fish Frying	712	Size Making	5
Oil Distilling.. ..	3	Manure Manufacturing	1
Tanning	4	Fat Melter	1

During the year 3,720 inspections of offensive trade establishments were made by the district inspectors.

Of these inspections 3,292 were of fish-frying establishments.

Whilst these premises generally were found to be clean, in 12 instances the occupiers were cautioned respecting unsatisfactory conditions; on subsequent inspections the premises were reported to be satisfactory.

The remaining 428 inspections of other offensive trades revealed a general freedom from nuisance.

Thirty-three applications to establish offensive trades were received during the year. 29 of these related to the trade of fish fryer, one to pickle and sauce manufacturing, and one to fat melting.

The applications were acceded to in nine cases, comprising seven fish frying, one fat melting, and one pickle and sauce manufacturing. The remaining applications were refused on account of the unsuitability of the site or premises.

Nine offensive trades were established during the year and four were discontinued, particulars of which are as follows :—

Trade	Established	Discontinued
Soap Boiling	1	—
Rag and Bone Dealing	1	—
Fish Frying	6	3
Rubber Paste, etc., Spreader	—	1
Fat Melting	1	—
	*9	4

* In 4 cases the permission to establish was granted prior to 1933.

Two applications have been received during the year for extension of the periods in the consents granted.

One limited consent relating to the trade of fish frying and one to that of rag and bone dealing were extended for a further period of five years.

TIPS.

Supervision of tips in the City continues to be exercised. At the end of the year there were 49 tips in use, 10 belonging to the Cleansing Department, six to other Corporation departments, and 33 owned by private firms.

Three new tips were commenced during the year, one by the Cleansing Department and two by private firms, whilst 11 tips were discontinued as such, seven being owned by private firms, three by the Cleansing Department, and one by the Gas Department of the Corporation.

Unsatisfactory conditions were reported on four occasions at Cleansing Department tips, which on subsequent visits were found to have been remedied.

In six instances nuisances were reported at private tips but were abated without statutory action being taken.

The tip at Randolph Street, Moston, continues to require attention to prevent noxious fumes escaping into the atmosphere from the subterranean combustion. The fire is kept under control by the application of sand and consolidation of the surface. The work is being done by the drainage section of this department at the request and expense of the owner. The total cost of the work at this tip up to the end of the year was £600.

456 inspections of private tips and 144 inspections of Corporation tips were made during the year.

STABLES.

Close attention has been given to stables premises with a view to their maintenance in a clean and satisfactory condition, free from nuisance, and to ensure the storage and removal of manure in accordance with the byelaws in operation in the City.

There are 1,024 stables on the register which accommodate 4,462 horses and 47 ponies and donkeys.

During the year 6,746 inspections have been made. Generally the premises were found to be kept reasonably clean and in accordance with the byelaws.

Four stables, however, were in such bad condition structurally that notices were served to discontinue the keeping of animals. These notices were complied with.

Notices were served in 13 instances to carry out repairs. These were complied with in eleven cases, and the remaining two were outstanding at the end of the year.

Three notices served for stable repairs in 1932 have now been complied with.

Twenty-eight cautions were given regarding dirty conditions and manure removal, all of which were complied with.

The number of stables in the City is declining; whilst 17 have been added to the register during the year 63 have been discontinued. The following table indicates the decrease since 1929 in the number of stables and animals kept:—

	1929	1930	1931	1932	1933	Total decrease since 1929
Stables	1,214	1,187	*1,109	1,070	1,024	190
Horses	6,164	6,153	5,104	4,342	4,462	1,702
Ponies and donkeys ..	66	60	56	53	47	19

* Includes 19 stables which were added by the inclusion of Wythenshawe in the City in 1931.

CANAL BOATS.

The registration and inspection of canal boats plying on approximately 11½ miles of waterway in the City have received attention. During the year 1,474 inspections of boats were made. Generally they were found to be satisfactory. The following infringements of the Canal Boats Acts and regulations made thereunder were reported :—

Absence of registration certificates	1
Boats requiring painting	3
Boats requiring repairs	12
	16

In 13 instances the inspector verbally cautioned the owners or masters of the boats and the infringements were remedied. In three cases notices were served. Two were complied with and one cancelled owing to the boat having been taken out of commission. Two outstanding notices from the previous year were also complied with.

No case of infectious disease on canal boats was reported.

Three new boats have been registered during the year, including two motor boats. Four boats have been re-registered, owing to structural alterations, and 37 boats have been removed from the register.

There are now 279 boats on the register, of which 273 are horse drawn, three propelled by motor (oil), and three propelled by steam.

Number on the Register during the past Five Years.

1929	1930	1931	1932	1933
415	321	313	313	279

Removal of Infirm and Diseased Persons in Certain Cases.

Where a person is infirm or diseased and is incapable of taking care of himself and unable to receive proper care and attention from others, the Manchester Corporation (General Powers) Act, 1930, empowers the justices to grant an order to the Medical Officer of Health for the compulsory removal of such person to hospital.

Twenty cases of infirm persons were reported during the year. Eleven were persuaded to enter hospital, two were taken charge of by relatives, one died before action could be taken, and in the remaining six cases some improvement was effected in the conditions. These are being kept under observation.

Arrangements were made at all the houses for the necessary cleansing. With regard to the four cases outstanding from 1932, two have since been removed to hospital and two are still being kept under observation.

In no instance has it been considered necessary to make application for a magistrates' order for compulsory removal.

EXHUMATIONS.

Fourteen exhumations have taken place during the year. They were supervised by the district sanitary inspectors as required by the Home Office Regulations to secure the work being carried out with due care and decency and in a proper manner.

Eleven of the bodies were re-interred in other portions of the cemeteries and three were removed for re-interment outside Manchester.

RAG FLOCK ACTS, 1911 AND 1928.

The duties imposed by these statutes have been carried out, but difficulties have been experienced in the maintenance of a high standard of purity in flock and wadding used for stuffing purposes, owing to the restrictions placed upon the interpretation of the term "rag flock" by the Rag Flock Act (1911) Amendment Act, 1928. Under this Act rag flock means flock which has been produced wholly or partly by tearing up woven, knitted, or felted materials, whether old or new.

There is a product on the market known as "jute wadding," some of the lower qualities of which are partially composed of old sacking which has not undergone any washing process. The processes through which the materials used in the manufacture of this article are passed are such that it is impossible in many cases, even on the closest examination, to say whether or not the resulting product is derived from woven, knitted, or felted materials, and the absence of such evidence renders the execution of the Act impossible.

Samples of this material have been taken during the year, and on examination chlorine has been shown to be present to the extent of 800 parts per 100,000 instead of 30 parts per 100,000, which is the maximum amount allowed under the Regulations.

The matter is one of considerable importance, because in some cases the wadding, which is being sold freely for use in the bedding, quilt, and upholstery trades, has been found to be filthy and verminous.

It would therefore appear that further legislation is required to ensure the washing (which costs approximately ½d. per pound) of all rag flock, including this so-called wadding, to a prescribed standard. With that end in view, it appears desirable that all manufacturers of rag flock should be licensed or registered, such license or registration to be withheld unless the premises and equipment are adequate.

Statement of Action under the Rag Flock Acts.

Number of samples obtained	48
Number of samples below the standard prescribed	8
Number of offenders cautioned	3
Number of offenders prosecuted	3
Number where evidence was not sufficient to warrant court proceedings	2
Number of offenders fined	2
Number of cases dismissed	1
Number of premises where rag flock is sold or used	107
Number of premises where rag flock is manufactured	1

Fabrics (Misdescription) Act, 1913. .

Ninety-one visits were paid by the female inspectors, but no samples were obtained as in no case would the shopkeeper declare the material to be non-inflammable.

Poisons and Pharmacy Act, 1908.

Under this Act, and the regulations made thereunder, 27 licences have been renewed and one new licence granted.

Complaints and Departmental References.

Complaints and references to this section of the department total 9,657. Of these, 6,372 were from private sources, the remainder being shown in the subjoined tabular statement :—

References from	Department concerned	References to
2,193	Other departments of the Corporation	3,590
1,092	H. M. Inspector of Factories	356

Seventy-two streets and passages requiring paving were referred to the Paving and Highways Committee by the Sanitary Sub-Committee, and notification of the paving of 49 streets and passages were received from the Paving and Highways Committee.

STUDENT SANITARY INSPECTORS AND HEALTH VISITORS.

In accordance with the arrangements approved by the Committee, facilities continue to be afforded for practical training in sanitary inspection to student sanitary inspectors and health visitors qualifying for the examination of the Royal Sanitary Institute.

During the year eight student sanitary inspectors and 18 student health visitors were given practical training by the inspectorial staff.

TABLE 3.

SHOWING THE NUMBER OF INSPECTIONS AND VISITS.

Primary inspections of dwelling-houses under the Housing Act, 1925		5,118	Dwelling-houses .. .. 86,764 Other premises 282
Subsequent inspections of dwelling-houses under the Housing Act, 1925..		13,593	
Primary inspections in suggested Clearance or Improvement Areas :—			
(*a*) Dwelling-houses	4,083		
(*b*) Other premises	264	4,347	
Subsequent inspections in suggested Clearance or Improvement Areas :—			
(*a*) Dwelling-houses	537		
(*b*) Other premises	18	555	
Primary inspections of individual unfit houses, not included in any suggested Clearance or Improvement Area		8	
Subsequent inspection of individual house, not included in any suggested Clearance or Improvement Area		1	
Primary inspections of dwelling-houses under the Public Health Acts		10,866	
Subsequent inspections of dwelling-houses under the Public Health Acts		23,863	
Primary inspections of infected dwelling-houses		4,098	
Subsequent inspections of infected dwelling-houses		1,310	
Inspections of dwelling-houses *re* Tuberculosis		14,394	
Other visits *re* Tuberculosis		3,366	
Houses let in lodgings		5,527	
Tents, vans, and sheds		428	Total 78,261
Homes of outworkers..		5,498	
Canal boats		1,474	
Bakehouses		5,368	
Food preparation premises		1,264	
Restaurant, etc., kitchens		90	
Butchers' shops and bacon stores		888	
Offensive trades—Fish fryers		3,292	
Offensive trades—Other than fish fryers		428	
Observations *re* effluvium nuisances		416	
Rag and bone dealers barrows		16	
Works boiler plant *re* smoke abatement		1,274	
Refuse Tips—Corporation		144	
Refuse tips—Private		456	
Markets		37	
Stables		6,746	
Piggeries		54	
Slaughterhouse		1	
Poultry-killing premises		34	
Sanitary accommodation at schools		137	
Sanitary accommodation at parks		1,364	
Land		457	
Watercourses		121	
Streets, passages, roadways, and footpaths		1,369	
Exhumations		14	
Factories and workshops		7,882	
Shops		18,443	
Premises in connection with Rag Flock Act		182	
Wholesale margarine dealers' premises		150	
Artificial cream manufacturers		5	
Other business premises		2,625	
Cesspools		58	
New Buildings (to test drains)		2,722	
Drains tested by water		3,094	
Percolations investigated		94	
Miscellaneous		11,636	
Grand Total			165,307

TABLE 4.

SHOWING WORK DONE AFTER LETTER OR INFORMAL NOTICE HAS BEEN ISSUED.

Nature of Work	Letters or Informal Notices Issued		Complied with*	
	Letters, etc.	Premises	Letters, etc.	Premises
General repairs to dwelling-houses	1,073	2,566	1,029	2,508
Urgent defects at dwelling-houses which have been ordered to be closed or which are on the list for consideration of the committee	1,975	3,151	1,581	2,570
Provision, repair, and reconstruction of drains ..	23	37	8	12
Repairs to water-closets	127	151	157	193
Provision of ash-bins	676	723	546	574
Provision or repairs of downspouts and eaves-gutters	14	22	3	3
Paving, flagging, or repairing of yards and open spaces	15	21	3	6
Paving, flagging, or repairing of passages.. ..	42	70	5	57
Cleanse verminous houses	2	2	1	1
Abate overcrowding at dwelling-houses	88	69	48	32
Discontinue using cellar as separate dwelling ..	1	1	1	1
Failing to inscribe the name and address of the Medical Officer of Health and/or Landlord in the rent book	35	64	37	67
Failing to afford facilities for inspection and testing of drains covered without inspection ..	9	7	11	9
Discontinue use of rain-water pipes as soil-pipes..	1	1	1	1
Removal of offensive deposits	7	7	3	3
Prevent water dripping from railway arch on to public footpath	1	1	1	1
Remedy defects at bakehouses	3	3	1	1
Cleanse and lime-wash workshop	1	1	1	1
Repairs to means of escape in case of fire at factories and workshops	14	14	25	25
Failing to exhibit in shops the prescribed form in respect to assistants' half-holiday	57	58	64	65
Failing to exhibit in shops the abstract of the Act in respect to Employment of Young Persons	15	15	20	20

* Includes some letters, etc., issued in 1932.

Where the work requested in letters or informal notices has not been carried out, statutory notices have since been served.

Table 5.

Showing Statutory Notices Served and Complied with under the Public Healt Housing, Factory and Workshops Acts, and the Various Local Acts and Byelaws.

Work Specified	Number of Notices Served		* Number of Notices Complied with	
	Notices	Premises	Notices	Premise
Repairs to dwelling-houses	538	974	719	1,526
Provision, repair, and reconstruction of drains	494	679	506	713
Repairs to water-closets and chambers	171	220	215	325
Provision of adequate closet accommodation	28	28	30	30
Provision of ash-bins	138	148	146	150
To demolish ash-pits	5	5	2	2
Provision or repairs of downspouts and eaves-gutters ..	290	432	373	571
Paving, flagging, or repairing of yard surfaces	434	994	587	1,641
Paving, flagging, or repairing of passage surfaces ..	298	1,448	309	1,609
Cleansing and lime-washing of dwelling-houses	43	43	35	35
To abate overcrowding at dwelling-houses	..	..	2	2
To discontinue using cellars as separate dwellings ..	3	1	3	1
Houses let in lodgings—				
To furnish particulars	215	215	189	189
To provide additional water-closets	8	8	2	2
To provide additional water supply and sinks ..	86	126	34	46
To cleanse walls and ceilings	13	23	11	20
Repairs to canal boats	2	..	2	..
Discontinue keeping animals—other than horses or swine	5	5	4	4
Repairs to stables and provision of manure-steads ..	13	13	14	14
Discontinue using premises as stables	5	4	5	4
Removal of offensive accumulations..	65	51	40	41
Cleansing, repair, and consolidation of private roadways.	6	6	..	..
Provision of adequate means of escape in case of fire at factories and workshops	53	53	69	69
Cleanse and lime-wash workshops	3	3	3	3
Remedy defects in workshops and bakehouses	7	7	7	7
Prevent the emission of smoke from chimneys of premises other than dwelling-houses	40	..	47	..

* Includes some notices served in 1932.

TABLE 6.

SHOWING OFFENCES REPORTED TO THE COMMITTEE, AND SUBSEQUENT ACTION.

OFFENCE	COMMITTEE PROCEEDINGS							PROSECUTIONS							
	Cases Reported	Notices ordered to be Served	Ordered to be Summoned	Work done before Issue of Summons	Cautioned or Excused	Reported to other Committees	Pending	Number Summoned	Number Fined	Ordered to Pay Costs only	Magistrates' Orders Granted	Withdrawn	Dismissed	Amount of Fines £ s. d.	Amount of Costs £ s. d.
Neglecting to repair houses after notice	101	..	101	91	..	..	..	*10	1	2	6	..	1	2 15 0	0 13 0
Neglecting to provide downspouts, etc., after notice	78	..	78	74	..	..	..	†4	4	..	..	..	..	2 13 0	..
Neglecting to provide privies, water-closets, etc., after notice	30	..	30	29	..	..	..	1	..	1	..	..	..	..	0 5 0
Neglecting to remedy flooding of cellars after notice	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..
Neglecting to discontinue inhabiting cellar dwelling after notice	2	..	2	2	..	..	..	..	..	..	..	..	..	..	..
Neglecting to inscribe the name and address of the owner and/or the Medical Officer of Health in the Rent Book	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..
Neglecting to comply with Magistrates' Order to repair houses	2	..	2	1	..	..	..	1	1	..	..	..	..	1 0 0	..
Houses Let in Lodgings—															
Overcrowding or mixing of the sexes	16	..	..	..	16	..	..	..	..	..	..	..	..	..	..
Neglecting to cleanse and lime-wash, provide water supply, etc., after notice	18	..	18	17	1	..	..	..	..	..	..	..	..	..	..
Neglecting to furnish registration particulars	11	..	11	11	..	..	..	..	..	..	..	..	..	..	..
Refusing to allow inspections and obstructing Inspectors	4	..	4	..	..	..	..	4	1	..	..	1	2	0 5 0	..
Neglecting to comply with Byelaws re Tents, Vans, and Sheds	36	..	36	31	..	..	5	..	..	..	..	..	..	..	..
Neglecting to remove accumulations of offensive matter, etc., after notice	3	..	3	3	..	..	..	..	..	..	..	..	..	..	..
Neglecting to consolidate roadway after notice	6	..	6	..	6	..	..	..	..	..	..	..	..	..	..
Neglecting to discontinue keeping animals after notice	3	..	3	3	..	..	..	..	..	..	..	..	..	..	..
Neglecting to remedy defects in stables after notice	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..
Allowing smoke to be emitted from chimneys of premises other than dwelling-houses	46	40	..	..	..	6	..	..	..	..	..	..	..	..	..
Allowing smoke to be emitted from chimneys of premises, other than dwelling-houses after expiration of notice	4	..	4	..	..	..	..	4	..	..	4	..	..	..	1 12 0
Neglecting to comply with Magistrates' Order to abate nuisance from smoke	60	..	25	..	35	..	..	25	25	..	..	..	..	57 10 0	..
Bakehouse in a dirty condition	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Neglecting to repair floors, etc., of bakehouse after notice	2	..	2	2	..	..	..	..	..	..	..	..	..	..	..
Neglecting to maintain means of escape in case of fire at factory in a satisfactory condition	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..
Did not exhibit the prescribed form correctly, stating the shop assistants' half-holiday	51	..	14	..	37	..	..	14	8	5	..	..	1	5 5 0	1 5 0
Shops open in contravention of Shops Act and Closing Orders	10	..	3	..	7	..	..	3	3	..	..	..	..	3 10 0	..
Shops open in contravention of Hairdressers' and Barbers' Shops (Sunday Closing) Act, 1930	5	..	2	..	3	..	..	2	1	1	..	..	..	0 10 0	0 5 0
Did not exhibit the abstract as to young persons in shops	3	..	1	..	2	..	..	1	1	..	..	..	..	1 0 0	..
Infringements of the Rag Flock Acts, 1911 and 1928	6	..	3	..	3	..	..	3	1	..	..	1	1	5 0 0	..

* Work not done in two cases, further proceedings pending.

† Work not done in one case, further proceedings pending.

Table No. 7.

Showing the Amounts received for the Use of the Underground, etc., Conveniences, and the Working Expenses, etc., during the Financial Year ended 31st March, 1934.

Situation of Convenience	Cost of Construction	Wages and Clothing	Gas, Water, Repairs, etc.	Amount received for Use of Water-closets	Amount received for Use of Lavatories	Amount received for Left Parcels	Amount received from Sale of Sanitary Towels and Chemists' Sundries	Commission on Receipts from Weighing Machines	Total Receipts	Total Expenditure	Surplus	Deficit
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Albert Square (Males)	948 7 10	387 3 9	109 18 4	182 11 11	33 6 8	..	..	11 7 8	227 6 3	497 2 1	..	269 15 10
Victoria Buildings (Females) ..	630 6 10	571 1 0	188 6 6	555 18 10	41 16 6	139 4 0	38 4 4	9 5 11	784 9 7	759 7 6	25 2 1	..
Piccadilly .. .. Females	887 12 9	325 7 3	171 18 1	795 2 1	50 17 6	71 3 2	26 10 2	7 4 9	950 17 8	497 5 4	453 12 4	..
Males	1384 14 5	631 19 8	267 17 4	531 15 1	176 0 0	212 0 4	..	66 16 3	986 11 8	899 17 0	86 14 8	..
Market Place (Males)	1035 9 5	386 19 11	157 12 0	244 17 5	75 2 10	..	..	9 5 0	329 5 3	544 11 11	..	215 6 8
South Street (Males)	1615 7 6	364 6 1	94 14 1	55 15 2	16 14 6	..	..	5 18 7	78 8 3	459 0 2	..	380 11 11
Great Bridgewater St. (Males).	1711 18 9	387 3 9	130 7 2	145 14 1	62 8 6	..	..	23 4 9	231 7 4	517 10 11	..	286 3 7
Victoria Street (Males)	2196 15 3	409 2 5	192 14 2	189 16 3	54 3 2	81 10 10	..	10 12 9	336 3 0	601 16 7	..	265 13 7
New Cross .. .. Females	1615 5 5	244 13 10	104 13 9	132 7 7	9 5 6	6 19 0	8 5 10	1 4 0	158 1 11	349 7 7	..	191 5 8
Males ..	1755 5 1	409 2 5	120 0 0	116 13 0	34 8 2	..	..	15 4 1	166 5 3	529 2 5	..	362 17 2
Stevenson Square Females	1605 16 11	244 13 10	118 8 6	261 6 5	11 15 2	16 3 10	10 17 6	1 18 8	302 1 7	363 2 4	..	61 0 9
Males	1724 16 11	409 2 5	119 12 6	158 18 6	35 17 2	52 16 0	..	7 13 8	255 5 4	528 14 11	..	273 9 7
a Blackley (Females)	959 8 9	..	105 0 1	..	..	..	..	..	30 0 0	105 0 1	..	75 0 1
Blackley (Males)	1026 12 9	387 7 11	78 18 2	15 8 10	2 3 6	0 9 4	..	3 5 10	21 7 6	466 6 1	..	444 18 7
b Corporation Street (Males) ..	2364 10 9	386 19 11	185 0 2	43 18 8	11 1 2	5 9 4	..	3 14 9	83 13 11	572 0 1	..	488 6 2
Withington (Females) .. .	267 14 6	244 13 2	57 8 8	64 13 1	1 6 0	10 12 5	2 12 6	0 12 8	79 16 8	302 1 10	..	222 5 2
Lloyd's Hotel, Chorlton-cum-Hardy (Males)	..	10 15 9	7 16 1	3 15 0	..	..	..	..	3 15 0	18 11 10	..	14 16 10
Shudehill (Males)	1631 9 3	364 6 1	142 11 3	81 7 0	18 1 0	15 11 6	..	3 6 3	118 5 9	506 17 4	..	388 11 7

(*Continued.*)

TABLE No. 7—*continued*

SITUATION OF CONVENIENCE		Cost of Construction	Wages and Clothing	Gas, Water, Repairs, etc.	Amount received for Use of Water-closets	Amount received for Use of Lavatories	Amount received for Left Parcels	Amount received from Sale of Sanitary Towels and Chemists' Sundries	Commission on Receipts from Weighing Machines	Total Receipts	Total Expenditure	Surplus	Deficit
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Longsight (Males)		260 14 1	46 17 6	13 3 2	31 13 3	..	..	..	3 7 10	35 1 1	60 0 8	..	24 19 7
Ardwick Green (Females) ..		605 10 7	244 13 2	55 0 10	52 7 8	6 13 4	3 2 8	2 18 10	0 13 11	65 16 5	299 14 0	..	233 17 7
d Gorton Lane ..	Females	403 19 8	244 13 2	37 13 1	11 0 9	0 2 8	..	..	..	36 16 7	282 6 3	..	245 9 8
	Males		37 15 6	9 6 7	13 9 8	..	..	..	..	13 9 8	47 2 1	..	33 12 5
c Moston Lane ..	Females	461 9 0	18 17 9	30 15 7	2 11 9	..	..	..	..	2 11 9	49 13 4	..	47 1 7
	Males		18 17 9	34 7 0	..	..	..	..	..	..	53 4 9	..	53 4 9
c Southern Cemetery	Females	811 17 4	25 7 9	16 4 2	25 9 3	..	..	..	..	25 9 3	41 11 11	..	16 2 8
	Males		25 7 9	18 19 10	8 18 3	..	..	..	9 2 7	18 0 10	44 7 7	..	26 6 9
c Barlow Moor Road	Females	540 0 0	23 7 4	16 10 11	32 13 3	..	..	..	1 5 4	33 18 7	39 18 3	..	5 19 8
	Males		23 7 4	16 10 11	18 15 10	..	..	..	5 16 5	24 12 3	39 18 3	..	15 6 0
e Levenshulme ..	Females	499 0 7	244 13 2	95 1 1	37 10 1	0 11 4	3 11 4	0 19 0	0 8 4	83 0 1	339 14 3	..	256 14 2
	Males		37 8 1	28 0 9	15 0 7	..	..	..	5 17 8	20 18 3	65 8 10	..	44 10 7
e Gorton Town Hall (Females)		550 0 0	164 1 1	30 18 9	42 8 1	0 16 0	..	0 14 10	1 15 7	45 14 6	194 19 10	..	149 5 4
Gorton Town Hall (Males) ..		820 0 0	28 6 1	14 13 9	27 14 1	..	..	..	6 0 7	33 14 8	42 19 10	..	9 5 2
North Road (Females)		521 4 9	31 17 8	22 18 6	4 8 3	..	..	..	0 11 0	4 19 3	54 16 2	..	49 16 11
Queen's Road ..	Females	1110 1 10	31 17 9	15 15 4	18 7 11	..	..	..	1 5 9	19 13 8	47 13 1	..	27 19 5
	Males		18 17 9	17 8 4	15 9 2	..	..	..	6 17 3	22 6 5	36 6 1	..	13 19 8
West Point ..	Females	1288 13 7	28 12 9	11 2 9	22 12 11	..	..	..	0 18 1	23 11 0	39 15 6	..	16 4 6
	Males		28 12 9	12 13 8	11 11 5	..	..	..	6 10 3	18 1 8	41 6 5	..	23 4 9
f Kitchen Bank (Females) ..		776 7 4	244 13 2	41 10 10	27 0 10	0 13 6	0 13 6	1 4 0	0 1 8	44 4 0	286 4 0	..	242 0 0
Dean Lane ..	Females	1121 0 0	244 13 2	39 18 7	26 4 6	0 8 4	0 11 6	1 3 6	1 0 4	29 8 2	284 11 9	..	255 3 7
	Males		18 17 8	10 1 2	8 0 3	..	..	..	..	8 0 3	28 18 10	..	20 18 7

(*Continued*).

T

TABLE No. 7.—*continued*

SITUATION OF CONVENIENCE	Cost of Construction	Wages and Clothing	Gas, Water, Repairs, etc.	Amount received for Use of Water-closets	Amount received for Use of Lavatories	Amount received for Left Parcels	Amount received from Sale of Sanitary Towels and Chemists' Sundries	Commission on Receipts from Weighing Machines	Total Receipts	Total Expenditure	Surplus	Deficit
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Wellington Hotel. Didsbury (Males)	86 4 1	10 15 9	3 10 11	5 13 11	..	..	..	..	5 13 11	14 6 8	..	8 12 9
Cheetham .. .. Females	1573 2 1	244 13 2	71 2 11	22 6 9	0 14 6	..	1 10 10	..	24 12 1	315 16 1	..	291 4 0
Males		386 19 8	72 0 0	13 7 8	2 14 8	..	..	1 18 1	18 0 5	458 19 8	..	440 19 3
Knott Mill (Females)	861 2 0	244 13 2	38 3 6	19 10 9	0 17 0	..	1 0 10	..	21 8 7	282 16 8	..	261 8 1
Northenden .. Females	545 0 0	28 12 9	29 16 10	26 14 3	..	..	..	1 11 9	28 6 0	58 9 7	..	30 3 7
Males		28 12 9	32 3 5	16 5 10	..	..	..	6 14 2	23 0 0	60 16 2	..	37 16 2
Alexandra Park Females	1560 2 1	244 13 2	48 12 7	27 14 0	0 18 8	..	0 13 6	..	29 6 2	293 5 9	..	263 19 7
Males		21 15 8	24 13 9	18 0 5	..	..	..	..	18 0 5	46 9 5	..	28 9 0
Butler Street .. Females	2392 10 8	244 13 2	31 14 1	11 14 3	0 5 8	..	0 6 0	..	12 5 11	276 7 3	..	264 1 4
Males		386 19 5	35 19 5	10 19 5	1 7 10	..	..	6 8 10	18 16 1	422 18 10	..	404 2 9
Midway Hotel. Longsight (Males)	247 2 4	10 15 9	8 18 7	5 19 1	..	..	..	..	5 19 1	19 14 4	..	13 15 3
Openshaw .. .. Females	1255 8 1	244 13 2	39 10 7	21 19 3	0 2 4	..	0 6 0	..	22 7 7	284 3 9	..	261 16 2
Males		18 17 8	14 6 4	8 19 0	..	..	..	4 3 2	13 2 2	33 4 0	..	20 1 10
g Seymour Grove, Chorlton-cum-H. Females	729 9 6	31 17 9	8 4 3	13 7 6	..	..	..	..	13 7 6	40 2 0	..	26 14 6
Males		18 17 9	17 10 1	7 18 9	..	..	..	..	7 18 9	36 7 10	..	28 9 1
Denmark Road.. Females	1260 5 1	244 13 2	55 11 6	26 10 5	0 13 8	..	0 15 6	..	27 19 7	300 4 8	..	272 5 1
Males		18 17 8	11 13 3	19 13 7	..	..	..	5 19 8	25 13 3	30 10 11	..	4 17 8
h Public Urinals	..	2015 15 4	817 0 4	..	..	..	..	12 1 3	18 4 10	2832 15 8	..	2814 10 10
Proportion of Cost of Maintenance of Joint Tram Shelters, etc., received from Transport Department ..	..	..	..	..	..	..	..	..	143 7 9	..	143 7 9	..
Proportion of Cost of Maintenance of Public Conveniences, Seymour Grove, received from Stretford M.B...	..	..	..	..	..	..	..	..	27 11 9	..	27 11 9	..
Sundry Receipts	..	..	..	..	..	..	..	..	179 14 5	..	179 14 5	..
TOTALS	43641 17 9	12443 12 2	4302 4 9	4310 1 6	651 6 10	619 18 9	98 3 2	271 5 1	6437 6 6	16745 16 11	916 3 0	11224 13 5

a This Convenience was let with shop at a rental of £30 per annum and rates, the Public Health Committee undertaking to pay for gas, water, and electricity.

b Transport Committee pay 7s. 6d. per week for privileges extended to Transport employees at this Convenience.

c Transport Committee pay half cost of construction (except Barlow Moor Road Conveniences, the amount stated

e Includes £40 rent received for portion of premises.

f Includes £14 10s. 6d. rent received for portion of premises.

g Stretford M. B. pay half cost of construction and maintenance and receive half receipts.

TABULAR STATEMENT OF SPECIAL INSPECTORS' WORK, 1933.

Number of visits *re*—		
Public Health (Meat) Regulations, 1924		1,826
Other Food Shops		84
Housing Act, 1930		340
Food Poisoning		55
Export of Washed Rags, Hemp, Twines, and Waste Paper		68
Infectious Diseases—Tuberculosis		14
Cerebro-Spinal Meningitis		4
Anthrax		5
Smallpox		3
Tonsillitis		3
Swabs		32
Nuisances		31
Vermin		411
Disinfestations of household effects (van loads)		11
,, ,, merchandise ,,		16
Tips		18
Open-air Markets		8
Offensive Trades		20
Miscellaneous		90
Aged and Infirm Persons		15
Statistics	(days)	194
Health Exhibitions	,,	36
Health Visitors (Didsbury Survey)	,,	16
Hulme Clearance Area Enquiry	,,	13

REPORT OF WORK DONE UNDER THE RATS AND MICE (DESTRUCTION) ACT, 1919.

The Act places an obligation upon the occupier of any land or premises infested with rats or mice to take all necessary and reasonably practicable steps for the destruction of rats and mice and for the prevention of re-infestation.

The fact that the occupier is solely responsible for this work frequently makes procedure under the Act difficult. Cases arise where examination of undermined surfaces and tracing of rat burrows and inspections of disused or closed-in cellars are required. In such cases affecting dwelling-house property, the assistance of the owner has been solicited and, in almost every case, willingly given, but in many cases where occupied business premises are concerned, the owner is unwilling to undertake this work, consequently the question often arises as to whether it is reasonable to require an occupier to carry out such work and also effect extensive repairs to the structure or paving, which may be necessary to prevent re-infestation of the premises he occupies.

Whilst no part of the City is without some evidence of rats and mice, certain areas show a marked degree of infestation. The portions in which heavy infestation is found comprise :—the vicinity of Smithfield Market, land and buildings adjoining the several canals or adjacent to the Rivers, Irwell, Irk, Medlock, and Tib, the Cornbrook and Shooter's Brook.

Special measures have been carried out to control the movement of rats in connection with the demolition of old buildings, the contractors being advised of measures which may be adopted for the destruction of rats, the necessity for the removal of disused drains, the sealing of sewer connections, and general preventive measures. This work is important, as it prevents the scattering of rats and the infestation of adjacent premises.

The number of complaints received during the year was 470, as against 511 in 1932, 422 in 1931, and 390 in 1930. The average number of premises involved per complaint being: 1933—6·4, 1932—5·2, 1931—6·9, 1930—7·2.

Investigation.

Complaints of the presence of rats received from occupiers, sanitary inspectors, health visitors, police, and the general public are investigated by the Rat Executive Officer and his assistant, both fully qualified sanitary inspectors who have specialised in this work.

The premises complained of, and, if necessary, adjacent premises, are inspected to ascertain the extent of, and, if possible, the source of, infestation.

Primary inspections have been made at 2,455 premises during the year; of these, 2,057 were found to be infested with rats and 264 infested with mice, and at 134 premises no visible evidence of rats or mice could be found. Of the rat infested premises, 669, or 32·5 per cent., showed infestation of the interior of the building, and 1,388, or 67·5 per cent., infestation of yards, passages, land, and gardens only. The conditions found at each type of premises are shown in Table I.

Causes of Infestation.

Infestation was found to be directly due to or associated with defective or disused drains or sewers in 61·5 per cent. of all rat infested premises visited; in 40·5 per cent. of premises affected by interior infestation; and in 71·6 per cent. of premises where infestation was confined to yards and passages only. In only 0·53 per cent. of the infested premises was the cause of infestation not determined.

A classification of the causes of infestation will be found in Table II.

Nature of Business carried on at Infested Premises.

During the year primary inspections were made at 488 business premises affected by rat infestation. Of this number, 119, or 24·3 per cent., were premises at which food was prepared, stored, or sold, and 214, or 44 per cent., were factories, workshops, warehouses, and places in which the attraction to rats was the scrap food and food paper-wrappings thrown about the floors or left unprotected about the premises.

Details of the nature of premises infested will be found in Table III.

Repressive Measures.

Occupiers of rat infested premises are advised by the Rat Officers of the remedial and preventive measures which appear to be necessary. Each case is considered individually, and appropriate methods, applicable to the specific type of infestation, for carrying out organised rat destruction are suggested. Where necessary, repeated re-visits are made to ensure that the measures are being carried out in an efficient manner. The Rat Officers have made 3,422 such re-visits during the progress of repressive measures.

Destruction.

Professional rat-catchers have been employed at 407 premises, and have certified to the destruction by them of 8,130 rats in the City area during the year 1933. The gassing machine has been used at 13 premises during this period.

The various Corporation departments have co-operated in these repressive measures, and baits totalling 61,912 have been laid, chiefly in the sewers, by the City Engineer's Department. 41,348 of these were taken, and the Secretary of the Rivers Department reports: "Dead rats are a regular feature in the sewage arriving at the Davyhulme Works, and the flush of storm water following heavy rainfall in the City brings a large increase in numbers. Whether this increase is due to poison baits laid in the sewers by the Highways Department or to drowning by the sudden rise in the sewage flows has not been determined."

Corporation Departments, by other means than poison, have destroyed 5,912 rats during the year.

Rat Proofing.

The condition of many of the older buildings in the City is such as to allow easy means of ingress and harbourage for rats, and in some cases to rat-proof the building effectively would necessitate reconstruction.

The attention of the occupiers of these old buildings is directed to defects such as short or gnawed doors, open pipe tracks, unguarded windows and ventilators, and holes in the structure.

Measures carried out.

During the year 2,151 premises have been cleared of rats and mice.

At the end of the year the position in connection with 3,993 other premises, being dealt with for the presence of rats and mice, was as follows:—

Repression work in progress by rat-catchers..	348	premises
,, ,, ,, ,, owners or occupiers ..	1,139	,,
Awaiting reports on condition of drains or sewers ..	267	,,
Drain or sewer work done, under observation	572	,,
Repressive measures carried out, under observation ..	1,667	,,
Total	3,993	premises

Particulars of the measures carried out during the year are detailed in Table IV.

Recurrence of Infestation.

In the period 1928 to 1932 inclusive, measures for the repression of rats and mice have been carried out in connection with 10,618 premises. At 10,241 premises (96 per cent.) there has been no complaint of re-infestation.

Re-infestation has, however, occurred in connection with 377 premises in this period, and of these, 293 have been dealt with and again reported clear, whilst in the remainder (84) repressive measures are still in hand.

The efficiency of the work done in each year during the period 1928 to 1932 is set out in Table V.

Collective Action.

The importance of concerted action by occupiers of adjacent infested premises has been emphasised, and where necessary co-operative action has been secured for the destruction of rats and mice. *In no case was it found necessary either to serve statutory notice or to take legal proceedings.*

Tracing of Burrows in relation to Drainage Infestation.

In the course of 258 examinations of undermined surfaces made by owners and occupiers, by the City Engineer's Department, and by the Drainage and Sanitary Sections of the Public Health Department, 369 defects were revealed in drains or sewers which in the majority of cases proved to be the cause of infestation.

The conditions found, and the action taken in connection with this portion of the work, is shown in Table VI.

National Rat Week, 1933.

In compliance with a memorandum from the Ministry of Agriculture and Fisheries a special effort was made in National Rat Week, 6th to 11th November, 1933.

Rat Week Propaganda.

The object was advertised extensively in the local press and on a large electric sign in the City. Two hundred large posters were exhibited on City hoardings, and 1,000 letters were sent to farmers and occupiers of other premises peculiarly liable to infestion by reason of the nature of the business carried on. All Corporation Departments were invited to co-operate.

Work Directly arising from Rat Week Propaganda.

		National Rat Week, 1933	Weekly Average (excluding Rat Week)
Number of complaints received		43	8·4
Premises visited in connection with complaints :—			
In Rat Week	157		
Immediately subsequent to Rat Week..	125	282	41·7
Revisits to other premises known to be infested		83	64·5

CONDITIONS FOUND AT PREMISES VISITED ON COMPLAINTS DIRECTLY ARISING OUT OF NATIONAL RAT WEEK.

	Business Premises	Dwelling-houses	Totals
Interior infestation	35	22	57
Exterior infestation	37	97	134
Mice only	38	41	79
No evidence	2	10	12
Total	112	170	282

Advice was given in all cases by letter or verbally by the investigating officer. Arrangements were made at nine premises for the employment of a rat-catcher.

Four professional rat-catchers reported having destroyed 629 rodents in the City during the week.

Repression Work by Corporation Departments during Rat Week.

The City Engineer's, Rivers, Markets, Cleansing, and Parks, etc., Departments carried out special measures, which included the laying of 10,675 poison baits in the sewers, and of this number 7,118 were known to have been taken.

TABLE I.

SUMMARY OF CONDITIONS REPORTED AND NUMBER OF PREMISES PRIMARILY VISITED DURING THE YEAR 1933.

Interior Infestation				Exterior Infestation		No Evidence of Infestation	
Rats		Mice					
Business Premises	Dwelling-houses	Business Premises	Dwelling-houses	Business Premises	Dwelling-houses	Business Premises	Dwelling-houses
263	406	72	192	225	1,163	37	97
933				1,388		134	

Total .. 2,455

TABLE II.

CLASSIFICATION OF CAUSES OF INFESTATION IN PREMISES PRIMARILY VISITED IN 1933.

Cause of Infestation	Interior Infestation		Exterior Infestation		Totals	Per-centage
	Business Premises	Dwelling-houses	Business Premises	Dwelling-houses		
Directly due to or associated with defective or disused drains or sewers	99	172	122	872	1,265	61·50
Nature of business carried on in premises or vicinity	49	8	19	8	84	4·09
Tip and refuse dumps	8	..	7	5	20	0·98
Neglect in the protection of food scraps and wrappings	16	10	3	15	44	2·14
Dilapidated premises	24	35	24	25	108	5·24
Demolition or building operations in vicinity	22	130	23	116	291	14·14
Vicinity of open or culverted water-courses, railway cuttings and sidings	45	48	25	116	234	11·38
Cause not determined	..	3	2	6	11	0·53
	263	406	225	1,163	2,057	100·00

ANALYSIS OF DRAINAGE INFESTATION.

Infestation	Business Premises		Dwelling-houses		Totals
	Interior	Exterior	Interior	Exterior	
Total number of primary investigations into rat infestation = 100 per cent. ..	263	225	406	1,163	2,057
Directly due to defective or disused drains or sewers	47	100	105	799	1,051
Associated with defective or disused drains or sewers	52	22	67	73	214
Total number of premises affected by drainage infestation	99	122	172	872	1,265
Percentage of drainage infestation in each group..	37·64	54·22	42·36	74·97	61·50

TABLE III.

NATURE OF PREMISES INFESTED DURING THE YEAR 1933.

Particulars of Premises	Interior		Confined to Streets, Yards, Passages, Gardens, or Adjoining Lands	Totals
	Rats	Mice	Rats	
Hotels, restaurants, cafes, licensed premises, etc.	7	1	8	16
Grocers, corn dealers, dairies, butchers, confectioners, sweet shops, chocolate factory, fried fish shops, etc.	47	14	57	118
Rag stores, stables, piggeries, poultry houses, cattle lairages, pig market, etc...	17	..	9	26
Farms, watercourses, canal arms, etc. ..	1	..	14	15
New estates, garages, builders' yards, coal yards, etc.	4	..	19	23
Factories and Workshops.—Waterproofs, rubber, printers, plumbers, smiths, tailors, mason, paper, boiler-makers, starch works, signwriters, saddlers, etc.	60	15	15	90
Warehouses.—Textile, cloth, boot and shoe, lighting materials, packers, hardware, furniture, bedding, cotton, etc.	34	3	8	45
Shops.—Tailors, boots and shoes, chemists, hairdressers, fancy goods, drapers, outfitters, cycles, wireless, dog breeder, newsagents, pictures, pawnbrokers, etc... ..	41	10	56	107
Institutions.—Synagogues, chapels, blind asylum, schools, sports ground, etc. ..	4	3	5	12
Public Halls.—Cinema, baths, theatre, museums, etc.	4	1	1	6
Offices	22	24	18	64
Unoccupied premises	22	1	15	38
Dwelling-houses	406	192	1,163	1,761
Totals	669	264	1,388	2,321

TABLE IV.

RAT DESTRUCTION AND PREVENTION MEASURES CARRIED OUT DURING THE YEAR 1933.

Measures carried out	By whom carried out	Business Premises	Dwelling-houses	Totals
Prevention only	Occupier	8	28	36
Destruction only	Occupier	60	313	373
Destruction, Proofing, and Prevention	Occupier	145	273	418
	Owner	1	—	1
	Rat-catcher	4	1	5
	Destruction by occupier, proofing by owner	16	58	74
	Destruction by rat-catcher, proofing by occupier	28	11	39
	Destruction by rat-catcher, proofing by owner	8	7	15
	Destruction by occupier, sewers by City Engineer	159	825	984
	Destruction by occupier, drains by owner	68	138	206
	Totals	497	1,654	2,151

TABLE V.

PERCENTAGE EFFICIENCY AT THE END OF THE YEAR 1933 OF THE WORK DONE IN EACH YEAR DURING THE PERIOD 1928 TO 1932.

Particulars	Year				
	1928	1929	1930	1931	1932
Number of premises reported clear of rats and mice..	1,670	2,202	2,481	2,055	2,210
Premises where re-infestation has occurred and has been dealt with subsequently. Again reported clear of rats and mice	198	52	30	13	—
Re-infested premises at which repressive measures are still in hand	37	13	16	14	4
Premises dealt with at which there is no further complaint of the presence of rats or mice	1,633	2,189	2,465	2,041	2,206
Percentage efficiency of the work done at the end of the year 1933	97·78	99·40	99·35	99·31	99·82

Table VI.

Tracing of Rat Burrows in Relation to Drainage Infestation.

Number of examinations made by ..	*City Engineer* 136	*Owners and Occupiers* 112	*Drainage Section* 8	*Sanitary Section* 2	Totals 258
Conditions found or action taken.					
Defective sewers requiring reconstruction ..	6	..	..	..	6
Sewers reconstructed	4	..	..	..	4
Minor defects in sewers repaired	100	..	4	..	104
Disused privy midden drains removed ..	36	5	12	..	53
Other disused drains removed, or otherwise dealt with	38	59	2	..	99
Defective outlet drains repaired by Corporation on owners' orders	20	..	..	..	20
Defective drains remedied by owners or referred to Sanitary Section	3	49	2	29	83
Street drain inlets repaired	4	..	..	..	4
Outward rat burrows consolidated	13	..	..	..	13
Surface rat burrows consolidated	11	37	1	..	49
Undermining due to other causes than rats.	2	..	..	..	2
Totals	237	150	21	29	437

Other Drainage Examinations By Sanitary Section made during the Year at the Instance of the Rat Section.

Premises examined in consequence of suspected drainage infestation	35
Premises awaiting examination of drains in consequence of suspected drainage infestation	5
Premises at which drainage work required under notice has been completed during the year (includes work outstanding at the end of 1932)	37
Premises at which drainage work required under notice was in progress at end of the year	24
Notices to repair defective drains served or in course of preparation	5

REPORT ON THE WORK OF THE CLEANSING DEPARTMENT SUPPLIED BY THE DIRECTOR OF CLEANSING.

Duties of the Cleansing Authority.

The cleansing of the City is under the control of the Cleansing Committee, which is responsible for the efficient management and transaction of all matters relating to the scavenging of the City and the performance of acts and duties in connection with every branch of City cleansing as directed by the various Acts of Parliament and Local Acts now in force. In addition, the Cleansing Committee undertakes, on behalf of the Markets Committee, the cleansing of the various public markets within the City.

For administrative purposes the Department is divided into two sections:—

1. House and Trade Refuse Section—to deal with the collection, removal, and disposal of household and other refuse arising from premises in the City and the cleansing of markets.
2. Street Cleansing Section—for the scavenging of the City, watering and gritting of roadways, clearance of snowfalls, etc.

Both these sections are co-ordinated in matters of supervision, intermobility of transport and man power, disposal facilities, use of repair and maintenance centres, and in other similar ways.

Extent of the Cleansing Department's Operations.

The volume of work necessitated to carry out the Committee's obligations is indicated in the following table, showing the collection of refuse during the year ending 31st March, 1934:—

House and Trade Refuse Section—	*Tons*
Nightsoil	3,899
Slaughter-house Refuse	5,435
Bad Meat	382
Offal	210
Fish	894
Ashes and Ashbin Refuse	169,965
Warehouse Refuse	12,329
Trade Refuse	13,528
Waste Paper	473
Garbage	4,082
	211,197
Street Cleansing Section—	*Loads*
Street Sweepings	39,416

From the above will be gained some impression of the variety of refuse and the magnitude of the Department's operations. To illustrate this still more, there are within the City 207,625 ashbins, each of which is required to be emptied at least once per week, so that this one operation alone involved no less than 10,796,500 individual house calls per annum. Similarly, the operations connected with street cleansing necessitated the sweeping of 907,490,000 square yards of surface, and the distribution of 8,651,300 gallons of water and 1,725 tons of sand and chippings on the roads, whilst over 850 tons of refuse had to be treated and disposed of every working day throughout the year.

The cost of the cleansing service throughout the year was £330,029 5s. 8d. This is equivalent to a cost of—

	s.	d.	
	1	0·65	per £1 in the rates,
or	8	8·50	per person per annum,
or	0	2·01	per person per week.

Staff, Plant, Depots, etc.

The Committee employs, under the Director of Cleansing, a staff of about 69 officials and 1,648 workmen, and for the purpose of its work requires some 80 motor sweepers, refuse collection vehicles, tipping wagons, etc., 224 horses, a steam tug and fleet of 11 barges, about 100 heavy railway wagons, 4 small locomotives and 233 light railway trucks. It utilises also 28 depots and 4 railway sidings and is the landlord of four estates with a total area of 3,639 acres.

The Collection of Refuse from Streets and Premises.

The collection of refuse from the City streets and premises is a matter of careful and precise organisation. Both the streets to be swept and the premises to be visited are completely scheduled and receive attention at specified times on specified days each week. The interval between cleansings is never more than seven days, and in many cases in the centre of the City clearances are made several times during a week or even daily.

Refuse Disposal.

It will be appreciated that, from an administrative standpoint, it is the effective disposal of the great mass of refuse which so quickly accumulates in a large City rather than the collection which constitutes the more difficult problem. As previously stated, there is more than 252,000 tons of refuse for disposal per annum, or over 850 tons each working day, and, obviously, the sooner this waste matter, often deleterious in character, is completely disposed of in as hygienic a manner as possible the better for general health, comfort, and well-being.

Methods of Refuse Disposal.

To an inland town there are generally four main methods of refuse disposal available, viz.:—

Disposal inside depot:—

1. Incineration.
2. Separation and Incineration.

Disposal outside depot:—

3. Land reclamation and sale to farmers.
4. Controlled tipping.

Taking the four above-mentioned methods *seriatim*, they may be briefly described as follows: —

Incineration.

The refuse is delivered into the depot and after a very elementary separation of metals, brickbats, etc., is burnt in forced-draught furnaces or boilers.

Separation and Incineration.

This method treats the refuse, as received, by machinery designed to separate the refuse into various parts—firstly, to divide it into burnable and unburnable elements, and secondly, to extract such components as dust, cinders, metals, etc., with a view to further utilisation. As an inside depot method of disposal the separation method is more economical and has a number of other advantages over the older straight incineration method.

Land Reclamation.

Excellent examples of pure land reclamation are given by the Manchester Corporation's estates at Carrington and Chat Moss, which, originally raw moss, have been converted into flourishing agricultural communities producing a rental of more than £7,000 a year. Land reclamation such as this, however, is generally only commenced when an outlet is required for refuse having a manurial value, like the contents of the pail closets which are practically extinct today in Manchester.

Controlled Tipping.

This form of refuse disposal must not be confused with the ancient discredited open dumping. It is a modern, scientific, and hygienic method, consisting of depositing the refuse in layers of a specified depth and sealing each layer with earth or other suitable material at the end of the day, meanwhile taking certain precautions to prevent flies and vermin.

When properly carried out it gives an economic and highly efficient means of disposing of the refuse, and, as may be seen at various places within the Manchester boundary, this method is of great value in reclaiming otherwise waste lands (such as old quarries, land subject to flooding, etc.), which are easily converted into playing fields or pleasure grounds after the tipping and sealing have been completed.

During the past two years extensive experiments and tests have been carried out by the technical staff of the Cleansing Department to determine whether controlled tipping is a safe and hygienic method of refuse disposal. The results of these tests, which have been incorporated in a book published by the Cleansing Committee, appear to have proved conclusively that the faith of the advocates of this method has been amply vindicated.

The Future of Manchester Cleansing.

The Cleansing Committee is alive to the need for keeping up to date and has adopted a policy based on the slogan "Efficiency with Economy." In pursuance of this policy the Committee is gradually mechanising its transport; has installed three separation plants of the most modern type; looked after the welfare of its workmen by installing baths, wash-bowls, dining rooms, etc., at the depots; and, by using otherwise excessive space at certain depots to form flower beds and grass plots, has completely changed these depots from the old, drab, town's yards into places with some pretensions to beauty.

That the policy is a sound one is evidenced by the fact that the estimates for the current financial year, whilst providing for a standard of work equal to or better than any in the past, show a saving in cost over the average expenditure for the five years 1927 to 1931 of no less than £71,000 per annum.

The progressive programme of reorganisation and reconstruction throughout the Department, upon which, as indicated, a commencement has been made, will keep Manchester, it is believed, in the forefront of the world's cleansing authorities.

SPECIAL REPORTS.

MANCHESTER AND DISTRICT REGIONAL SMOKE ABATEMENT COMMITTEE.

The results of the elementary course in Fuel Economy and Smoke Abatement which the Manchester College of Technology arranged to meet the requirements of boiler firemen were highly satisfactory. 59 sat for the examination at the College, 53 satisfying the examiners. Certificates were awarded to the successful students and these were presented to them by the Lord Mayor of Manchester on the 25th September at the Town Hall.

The Regional Committee have a high regard for the value of these classes and greatly appreciate the help given by the College Authorities and for the repetition of the course during the session 1933–34.

It is satisfactory to note that Dr. G. W. N. Joseph, Medical Officer of Health for Warrington, was instrumental in getting the Warrington Health Committee to arrange a course of lectures at Warrington on similar lines to those held at Manchester. These were well attended and the successful students are to receive certificates from the Regional Committee.

The provision of instructional courses in boiler-house practice has also received the attention of the National Smoke Abatement Society and in this connection they have approached the City and Guilds of London Institute with a view to that Institute holding examinations in the subject. A deputation of representatives of the National Smoke Abatement Society, Educational Associations, Technical Institutions and Engineers waited upon the department of Technology of the Institute, after which a sub-committee was appointed upon which the Regional Committee had a representative. This sub-committee reported favourably on the proposal and a Standing Advisory Committee to deal with the matter has been set up. Mr. S. N. Duguid has been appointed to represent the Regional Committee on such Advisory Committee. These examinations will be of such a character as to make it necessary for candidates to attend two or three years' courses. They will not interfere with the elementary classes for boiler firemen which are being held in Manchester, Warrington, Glasgow, Huddersfield, and Poplar, and it is hoped they will be established in many other districts.

The usual quarterly meetings were held, and at the half-yearly meetings in June and November the following addresses were given :—

"The Smoke Abatement Problem from the Sanitary Inspectors point of view" by Mr. A. E. Crossley, F.S.I.A., Smoke Inspector, Manchester Corporation Public Health Department.

"Regional Smoke Abatement Committees" by Mr. James Law, Chief Smoke Inspector to the Sheffield, Rotherham, and District Regional Smoke Abatement Committee.

It will be recalled that in 1931 it was proposed to form a South-East Lancashire Joint Smoke Abatement Board. A large amount of preparatory work was carried out and eventually a scheme was drawn up and approved by representatives of the local authorities in the regional area at a meeting convened by the Lord Mayor of Manchester. A formal letter conveying this approval and a copy of the scheme were sent to each of the constituent authorities asking the local councils to consider the proposals and urging the desirability of joining the Board in the common interest. Unfortunately the issue of this letter preceded only by a very short period the institution of the national economy campaign and on that account a further letter was addressed to the various authorities postponing this proposal. The members of the Regional Committee feel that the time is now suitable for again raising this proposal and steps are being taken, therefore, to bring the work on which the recommendations were primarily based up-to-date and to make arrangements for the consideration, by the constituent authorities, of the provision of a Statutory Joint Smoke Board as the only adequate method of official control of the smoke nuisance in the regional area.

The committee has continued the distribution of literature amongst the various affiliated authorities, but it would appear that the unsatisfactory state of trade is still an important factor in hampering the efforts of the Committee, owing to the disinclination of manufacturers to embark on any additional expenditure with a view to improving their boiler plant and employing more up-to-date methods which would undoubtedly help towards the reduction of smoke emission.

With respect to domestic smoke the committee has continued its investigations into suitable types of firegrates, particularly those suitable for burning coke. Several excellent and attractive types have been placed on the market by manufacturers and gas undertakings are giving a large amount of publicity to these grates. In this way, and by the increasing use of gas and electricity for both domestic and manufacturing purposes in recent years, there is certainly progress being made towards a cleaner atmosphere.

At the close of the year the number of authorities represented on the committee was 61 against 65 the previous year, owing to Bury and Leigh Rural Districts and Norden and Little Hulton Urban Districts having been abolished.

THE VENEREAL DISEASES SCHEME IN MANCHESTER.

Introduction.

The Public Health (Venereal Diseases) Regulations were issued in 1916 following a report of a Royal Commission on the subject which was presented to Parliament in that year.

Under the regulations, counties and county boroughs were required to provide schemes for the treatment of venereal diseases, 75 per cent. of the cost to be defrayed by the Government. This contribution was merged into the block grant in 1929.

The object of the regulations was, to put it very briefly, to secure free treatment for all persons suffering from syphilis, gonorrhœa, and soft chancre, and so to prevent the spread of these diseases; to provide laboratory facilities for diagnostic purposes, and to supply medical practitioners gratuitously with the necessary drugs for treating their private patients.

General Scheme.

A scheme for Manchester was accepted by the City Council and by the hospitals concerned in April, 1917.

Clinics were established and in-patient accommodation provided at the Manchester Royal Infirmary, Ancoats Hospital, the Hospital for Skin Diseases, and at St. Luke's Hospital. Facilities for the examination of specimens were made available at the Public Health Laboratory, and arrangements were made for the free supply of specific drugs to those doctors practising in the City who were able to satisfy the Ministry of Health's requirements as to experience in their use.

In 1919 additional clinics were arranged at St. Mary's Hospital for Women, and in September of that year two of the Maternity and Child Welfare Centres were added to the scheme.

In 1920 an auxiliary centre for the intermediate treatment of women was established in the grounds of Monsall Hospital. Thus many infected women are enabled to receive treatment which otherwise they might neglect to obtain, and in this way the transmission of syphilis and ophthalmia neonatorum to their offspring is to a large extent prevented.

The main defect of the scheme in the earlier years was the lack of facilities for intermediate treatment which is so important, especially in the case of gonorrhœa.

At first the only centre where males could receive intermediate treatment was at St. Luke's Hospital, and even there the arrangements were primitive in the extreme.

In 1929 the accommodation for this purpose at St. Luke's was entirely reconstructed on lines approved by the Ministry of Health.

In 1932 arrangements were made for daily intermediate treatment of males at the Manchester Royal Infirmary, and towards the end of 1933 similar facilities were provided at Ancoats Hospital.

These alterations have resulted in greater efficiency in the treatment of venereal diseases in the City and have added greatly to the value of the Manchester scheme, as is evidenced by the figures of attendances given in the tables at the end of this report.

The facilities for the intermediate treatment of females are not yet adequate. Improvement of the accommodation for this purpose is eminently desirable, and is at present under consideration.

Early Treatment (Preventive) Centres.

No account of the progress of the venereal diseases scheme in Manchester would be complete without mention of the "early treatment centres," which were in operation from December, 1919, to June, 1922. Two of such centres were established with the object, not of giving treatment to persons actually suffering from venereal disease, but of giving early preventive treatment to persons who had exposed themselves to infection within twelve hours of presenting themselves.

During the period that the centres were open, 14,697 persons received preventive treatment, 775 were referred to the clinics because they already showed signs of infection, and 120 were refused attention because they presented themselves too late for preventive treatment to be effective.

Enquiries made at the time failed to reveal any persons who developed venereal disease after receiving this treatment, but, owing to the vigorous objections which were expressed to the principle of the system, the centres were closed in June, 1922.

Prevalence of Venereal Diseases.

It is difficult to judge from any available statistics the extent of the prevalence of venereal diseases in the City.

The figures in the tables which follow do not represent accurately the number of persons suffering from venereal disease in Manchester. They include persons who do not reside in the City. On the other hand, a considerable number of Manchester residents seek treatment at clinics which are situated in other areas.

It must also, of course, be recognised that many cases of venereal disease never come under treatment at all. This is more especially true of gonorrhœa.

Venereal diseases are not notifiable, and mortality returns afford no reliable indication of their incidence.

Syphilis and gonorrhœa are directly or indirectly responsible for a number of deaths which are certified to be due to other causes. In the case of infants, however, it is likely that the mortality returns give an approximately true idea of the incidence of congenital syphilis. If this be so, Table I. shows that deaths from this cause have decreased by over 70 per cent. since the introduction of the scheme.

Table II. gives the average death-rates over a term of years from locomotor ataxy and from general paralysis of the insane. When the venereal diseases schemes were initiated it was thought probable by some authorities that the incidence of these two diseases, which are definitely of syphilitic origin, would increase owing to the survival of persons under treatment who otherwise would have died.

The figures show that there has, in fact, been no increase in the number of deaths from locomotor ataxy, and that there has occurred in recent years a notable decrease in the number of deaths from general paralysis of the insane. There is, however, no doubt that a good deal of the decrease in the mortality from the latter complaint is accounted for by the use of modern malarial therapeutical measures. This makes it impossible to estimate to what extent any diminution in the deaths from this disease is to be related to anti-syphilitic treatment.

Consideration of the numbers attending the clinics may give some idea as to the trend of venereal disease, although an increase in the number of persons attending does not necessarily indicate an increase in the prevalence of the disease.

Table III. shows that during the last few years there has been a fall in the number of persons suffering from venereal disease who presented themselves for the first time at the Manchester clinics. A similar reduction has been experienced throughout the country, and it is probably due to a genuine decrease in the number of persons contracting these diseases.

The importance of obtaining advice and treatment in the early stages of infection is becoming more fully appreciated. This is indicated by the increasingly large numbers of people who present themselves at the clinics and who are found not to be suffering from venereal disease (Table III.).

The average number of attendances at the clinics by individuals has consistently been improving since they were first opened. The figures convey no real information as to the number of attendances by any particular individual, but they are useful for comparative purposes, and it is evident that patients are realising more and more the value of continued and prolonged treatment. The great improvement in this direction which has occurred during the last few years is largely consequent on the new arrangements for intermediate treatment at St. Luke's Hospital, and more recently at Ancoats Hospital, and to the reorganisation of the work at the Manchester Royal Infirmary.

The total number of attendances at the clinics over a period of years is shown in Table VIII. The figures are indicative of the growing efficiency and popularity of the clinics.

The scheme, which is responsible for a vast amount of good work, is handicapped by the lack of powers to enforce treatment. In consequence, about one-quarter of the patients fail to attend for the full course of treatment and until they are declared to be cured. One reason for this is that a full course of treatment extends over a period of twelve months, and subsequent examinations are necessary for two and sometimes three years.

These defaulters include persons who have received complete treatment but cease to attend the clinic before the final tests of cure have been applied, and persons who cease attendance before treatment is complete.

It is probable that the great majority of those in the first category are cured and that a considerable proportion of those in the second category have received sufficient treatment to render them non-infective. This, however, has not been definitely ascertained, and these cases therefore must be regarded as potential spreaders of infection.

Failure to appreciate the importance of being entirely cured, and the length of time it takes to effect cure, are factors which are responsible for default in many instances. The only method of dealing with these defaulters is by writing to them, and this procedure results in the return for treatment of a small percentage of them.

The need for a continuous policy of education has been recognised since the commencement of the scheme, and this has taken the form of lectures to organised bodies of people, exhibitions, films, and from time to time special weeks of intensive propaganda, details of which are recorded in the annual reports.

The scheme in Manchester provides every facility for the diagnosis and treatment of venereal disease. At the time of its initiation the prevalence of venereal disease among the population was appalling, and it is difficult to contemplate what the position would have been to-day had these treatment centres not been established.

During the last fifteen years in Manchester, 49,238 persons suffering from syphilis, gonorrhœa, or soft chancre have been treated at the clinics, and it is safe to say that the majority of them have been cured or rendered non-infectious.

The benefits are being felt not only by the present generation, but will continue to show themselves in future generations in the decrease of cases of congenital syphilis, and the elimination of all those diseases which are known to be the late results of syphilitic infection.

The actual cost of the scheme has averaged £17,670 per annum over the past five years; the cost per attendance over the same period has varied from 3s. 10·35d. in 1929 to 3s. 5·54d. in 1932; or if attendances for intermediate treatment are included in the calculation the cost per attendance works out at approximately 1s. 8d.

A study of the tables in the Appendix will give some indication of the amount of work which is being done and of its value.

W. St. C. McClure.

TABLE I.

SHOWING AVERAGE NUMBER OF DEATHS FROM SYPHILIS UNDER 1 YEAR OF AGE PER 1,000 LIVE BIRTHS—1910–1933.

Years	Average Number of Births	Average Number of Deaths	Average Death-rate per 1,000 Births
1910–12	18,654	38	2·04
1913–15	18,118	43	2·4
1916–18	13,774	46	3·3
1919–21	16,890	37	2·2
1922–24	15,311	22	1·4
1925–27	13,722	9	0·6
1928–30	12,999	8	0·6
1931–33	11,726	9	0·8

TABLE II.

AVERAGE ANNUAL DEATH-RATES PER MILLION OF THE POPULATION FROM LOCOMOTOR ATAXY AND GENERAL PARALYSIS OF THE INSANE.

ENGLAND AND WALES			MANCHESTER.		
Years	Locomotor Ataxy	General Paralysis of the Insane	Years	Locomotor Ataxy	General Paralysis of the Insane
1909–13 ..	18	62	1909–13 ..	17	93
1914–18 ..	21	61	1914–18 ..	21	93
1919–23 ..	18	43	1919–23 ..	17	51
1924–28 ..	19	38	1924–28 ..	24	49
1929–32 ..	19	30	1929–33 ..	21	29

TABLE III.

AVERAGE NUMBER OF PERSONS PER ANNUM ATTENDING FOR THE FIRST TIME AT THE MANCHESTER CLINICS IN THREE-YEARLY PERIODS 1919–1933.

Years	Average Number found to have Venereal Disease	Average Number found not to have Venereal Disease	Average Number per Annum—All Cases
1919–21	4,581	1,065	5,646
1922–24	3,152	1,020	4,172
1925–27	2,811	1,120	3,931
1928–30	3,088	1,005	4,093
1931–33	2,520	1,437	3,957

TABLE IV.

SHOWING THE AVERAGE NUMBER OF PERSONS PER ANNUM TREATED FOR VENEREAL DISEASE FOR THE FIRST TIME AT THE CLINICS, THE AVERAGE NUMBER DISCHARGED CURED, AND THE AVERAGE NUMBER COMPLETING THE FULL COURSE OF TREATMENT BUT NOT FINALLY TESTED.

Years	Average Number of New Cases	Average Number Discharged Cured	Per cent. of New Cases	Average Number completing Course but not Finally Tested	Per cent. of New Cases
1919–21	4,581	982	21·5	637	14·0
1922–24	3,152	960	30·4	519	16·5
1925–27	2,811	610	21·7	472	16·8
1928–30	3,088	774	25·0	649	21·0
1931–33	2,520	854	33·9	603	23·9

TABLE V.

SYPHILIS.

TOTAL NUMBER OF PERSONS ATTENDING MANCHESTER CLINICS SUFFERING FROM SYPHILIS AND AVERAGE NUMBER OF ATTENDANCES PER INDIVIDUAL, 1924–1933.

Years	Number of Patients	Number of Attendances	Average Number of Attendances per Patient
1924–28 (average per annum)	3,523	29,131	8·3
1929	3,634	33,829	9·3
1930	3,484	37,493	10·8
1931	3,021	38,105	12·6
1932	2,645	46,601	17·6
1933	2,603	47,175	18·1

TABLE VI.

GONORRHŒA.

TOTAL NUMBER OF PERSONS ATTENDING MANCHESTER CLINICS SUFFERING FROM GONORRHŒA AND AVERAGE NUMBER OF ATTENDANCES PER PATIENT, 1924–1933.

Years	Number of Patients	Number of Attendances	Average Number of Attendances per Patient
1924–28 (average per annum)	3,485	36,721	10·5
1929	3,822	48,045	12·6
1930	3,626	56,578	15·6
1931	3,465	58,979	17·0
1932	2,847	76,544	26·7
1933	2,769	76,517	27·6

TABLE VII.

SHOWING FOR MALES AND FEMALES THE AVERAGE NUMBER OF ATTENDANCES PER PERSON FOR THE INTERMEDIATE TREATMENT OF GONORRHŒA, 1929–1933.

	Males			Females		
Year	Number of Persons	Number of Attendances	Average per Person	Number of Persons	Number of Attendances	Average per Person
1929	3,083	20,623	6·7	739	5,979	8·1
1930	2,875	26,444	9·2	751	5,784	7·7
1931	2,671	26,219	9·8	794	8,530	10·7
1932	2,169	40,780	18·8	678	8,558	12·6
1933	2,110	40,949	19·4	659	9,234	14·0

TABLE VIII.

SHOWING TOTAL NUMBER OF ATTENDANCES AT THE MANCHESTER CLINICS, 1919–1933.

Year	Number of Attendances	Year	Number of Attendances
1919	55,779	1927	75,581
1920	60,454	1928	85,694
1921	59,549	1929	88,514
1922	66,386	1930	101,157
1923	70,237	1931	103,814
1924	65,256	1932	128,768
1925	67,569	1933	129,629
1926	67,393		

TABLE IX.

AVERAGE NUMBER OF PATHOLOGICAL EXAMINATIONS PER ANNUM IN THREE-YEARLY PERIODS CARRIED OUT AT THE PUBLIC HEALTH LABORATORY AND CENTRES FOR THE DIAGNOSIS OF VENEREAL DISEASES, 1919–1933.

Years	Microscopical Examinations	Wassermann Tests	Total Number of Examinations
1919–21	2,506	5,905	8,411
1922–24	3,926	5,215	9,141
1925–27	4,220	4,690	8,910
1928–30	5,613	5,423	11,036
1931–33	6,858	7,132	13,990

SPECIAL INVESTIGATION OF "FARMED" HOUSES-LET-IN-LODGINGS.

(*On Register.*)

Number of "farmed" houses	448	
Number where tenant is also owner	175	(39·06%)
Number— (*a*) On list for consideration of Committee; or (*b*) Ordered to be closed; or (*c*) Situated in Scheduled Unhealthy Area; or (*d*) If on Suggested Improvement or Clearance Area; or (*e*) If scheduled for street widening ..	287	(64·06%)
Number of registered rooms (*a*), (*b*), and (*c*) ..	2,729	
(*a*) Number of furnished rooms	1,843	(67·51% of registered rooms)
(*b*) Number of unfurnished rooms	495	(18·15% „ „)
(*c*) Number of registered rooms unoccupied (*i.e.*, occur in 220 houses)	391	(14·34% „ „)
Number of combined living and sleeping rooms (*i.e.*, single-room tenancies)	1,739	(63·70% „ „)
Number of houses where one or more rooms are unoccupied	220	(49·11% of "farmed" houses)
Houses where water supply and sinks are insufficient	191	(42·63% „ „)
Houses where W.C. accommodation is insufficient.	30	(6·69% „ „)
Houses where dirty conditions were found ..	41	(9·15% „ „)
Houses where sanitary defects were found ..	65	(14·50% „ „)
Number of houses where mixing of sexes was found in one or more rooms	25	(5·58% „ „)
Number of houses where overcrowding was found in one or more rooms to the extent of one or more persons per room	39	(8·71% „ „)
Number of houses where overcrowding was found in one or more rooms to the extent of one child per room	62	(13·83% „ „)

"Farmed" Houses-Let-in-Lodgings—*continued*

Ward or Wards	Number of Houses "Farmed"	Name of House "Farmer"	Total Weekly Rents Paid or Payable	Total Weekly Rents Received or Due from Lodgers	Number of Families Housed	Number of Rooms Let		Numbe Unoccu Roon
						Furnished	Unfurnished	
			£ s. d.	£ s. d.				
St. Michael's	22	?	18 10 0	53 1 2	124	129	..	2
St. Michael's .. (8) Miles Platting .. (5) All Saints' .. (4) New Cross.. .. (1)	18	?	14 10 10	42 7 6	86	87	11	19
St. Luke's ..(11) All Saints' .. (4) Ardwick .. .. (1)	16	?	24 18 0	49 1 8	99	98	15	7
St. Luke's .. (10) All Saints'.. (1)	11	?	12 4 5	26 1 0	55	60	1	11
St. Luke's .. (7) All Saints'.. .. (2)	9	?	12 4 6	25 6 6	49	55	..	12
Collegiate	9	?	5 16 0	11 19 0	28	31	1	7
St. Michael's	9	?	3 15 9	9 13 3	24	27	..	2
Collegiate	8	?	6 4 2	9 8 0	22	23	..	10
St. Michael's	8	?	3 15 0	10 2 8	25	30	..	2
Collegiate .. .. (7) St. Michael's .. (1)	8	?	7 6 6	13 17 4	37	39	4	12
New Cross..	7	?	3 15 9	7 19 0	18	18	1	2
St. Luke's .. .. (5) Ardwick .. .. (2)	7	?	6 17 0	17 12 0	32	38	..	7
All Saints'.. .. (3) Moss Side E. .. (3)	6	?	7 19 7	17 1 6	38	43	..	4
New Cross.. .. (1) All Saints'.. .. (4) St. Clement's .. (1)	6	?	6 19 2	14 16 3	34	40	..	9
Cheetham .. .. (2) Miles Platting .. (3) All Saints'.. .. (1)	6	?	7 2 9	15 14 0	29	39	..	5
Collegiate	6	?	4 1 0	6 7 0	17	17	..	1
St. Michael's	6	?	3 0 9	7 7 9	19	20	..	1
Ardwick	6	?	7 10 0	9 15 6	18	11	18	20
St. Michael's.. ..	6	?	4 0 0	9 4 10	23	23	..	1
Collegiate	5	?	5 10 2	7 9 6	15	18	..	7
St. Michael's	5	?	5 0 0	7 3 3	17	13	4	7
St. Luke's .. (4) All Saints' .. (1)	5	?	6 14 6	15 0 0	31	32	2	7
St. Michael's	5	?	2 10 6	6 4 0	15	15	..	..
Carried forward ..	194		180 6 4	392 12 8	855	896	57	155

"FARMED" HOUSES-LET-IN-LODGINGS—*continued*

Ward or Wards	Number of Houses "Farmed"	Name of House "Farmer"	Total Weekly Rents Paid or Payable			Total Weekly Rents Received or Due from Lodgers			Number of Families Housed	Number of Rooms Let		Number of Unoccupied Rooms
			£	s.	d.	£	s.	d.		Furnished	Unfurnished	
Brought forward ..	194		180	6	4	392	12	8	855	896	57	155
t. John's	5	?	6	5	2	9	19	8	24	24	5	5
t. John's .. .. (2) t. George's .. (3)	5	?	5	12	6	10	18	0	30	30	..	2
Ioss Side E.	5	?	6	5	0	8	4	9	21	1	27	..
t. Michael's	4	?	2	10	0	5	11	0	13	15	..	1
t. Luke's	4	?	6	0	0	11	11	0	24	..	30	8
t. George's	4	?	2	0	3	4	13	0	12	15	..	..
t. John's	4	?	3	1	6	3	15	0	11	14	..	7
ollegiate	4	?	3	13	4	6	8	6	14	14	..	2
t. Michael's	4	?	2	10	0	6	6	0	16	21	..	..
ll Saints'	4	?	6	15	0	10	16	8	21	20	..	9
ollegiate	4	?	3	2	0	5	9	6	14	14	..	2
ollegiate	3	?	3	0	0	6	3	0	14	20	..	5
t. Luke's .. (2) orton South .. (1)	3	?	3	5	6	7	13	6	11	1	17	2
t. George's	3	?	1	13	9	3	10	6	8	10	..	..
ew Cross..	3	?	2	15	0	4	15	0	11	12	..	5
ll Saints'..	3	?	3	17	0	6	8	0	14	1	17	1
ollegiate	3	?	1	16	6	4	19	9	11	12	..	..
ew Cross..	3	?	2	0	2	5	15	6	13	13	..	..
ollyhurst	3	?	1	5	6	2	18	0	7	7	5	..
t. Clement's	3	?	2	3	6	6	6	0	13	14	..	2
t. Michael's	3	?	3	1	6	5	1	3	12	9	3	6
edlock	2	?	2	1	0	3	8	6	10	4	8	2
ll Saints'..	2	?	2	4	8	3	4	0	8	5	4	3
t. Luke's	2	?	2	10	0	3	17	0	11	10	4	..
ll Saints'..	2	?	2	12	0	1	16	0	5	3	6	5
rdwick	2	?	2	0	1	4	13	0	10	8	4	..
. Luke's	2	?	2	15	0	8	1	0	15	16	..	3
eetham	2	?	2	12	0	5	2	0	9	6	4	4
. John's	2	?	2	1	10	4	3	6	9	11	..	4
. George's	2	?	1	10	6	2	9	6	6	8	1	2
. Luke's	2	?	1	12	6	3	5	0	8	8	..	2
llegiate	2	?	2	5	0	3	10	0	8	11	..	2
ewton Heath ..	2	?	3	15	0	6	6	0	12	13	..	..
llegiate	2	?	1	12	0	1	19	6	5	5	..	3
. George's	2	?	2	2	0	3	16	0	8	5	7	2
. Clement's	2	?	1	18	1	5	16	0	11	11	..	1
Carried forward ..	301		286	11	2	591	3	3	1,304	1,287	199	245

"Farmed" Houses-Let-in-Lodgings—*continued*

Ward or Wards	Number of Houses "Farmed"	Name of House "Farmer"	Total Weekly Rents Paid or Payable	Total Weekly Rents Received or Due from Lodgers	Number of Families Housed	Number of Rooms Let		Number Unoccup Room
						Furnished	Unfurnished	
			£ s. d.	£ s. d.				
Brought forward ..	301		286 11 2	591 3 3	1,304	1,287	199	245
New Cross..	2	?	2 9 8	7 10 2	15	15	..	..
Miles Platting .. (1) Crumpsall .. .. (1)	2	?	2 18 0	6 12 0	11	13	1	2
St. Luke's	2	?	2 6 9	6 11 0	13	14	..	1
St. John's	2	?	2 15 0	3 14 6	9	10	..	3
St. John's	2	?	1 2 0	3 3 6	5	11	..	..
Ardwick	2	?	2 8 6	5 7 6	10	10	2	8
All Saints'..	2	?	3 10 0	7 4 6	14	12	..	2
St. George's	2	?	1 10 0	3 2 0	10	2	9	..
Collegiate	2	?	1 8 4	2 0 9	12	..	13	1
St. Clement's .. (1) St. Luke's .. (1)	2	?	1 16 3	3 19 0	8	10	..	..
Moss Side E.	2	?	2 12 0	4 17 0	9	9	6	1
All Saints'	2	?	1 7 4	4 7 6	11	11	..	2
St. John's	2	?	1 10 4	2 18 9	6	9	..	3
St. Luke's	2	?	1 17 8	5 5 6	12	11	3	..
Medlock	2	?	2 0 0	4 10 6	11	12	..	..
INDIVIDUAL FARMERS	117	?	132 6 10	234 14 4	505	407	262	123
TOTAL..	448		£450 9 10	£897 1 9	1,965	1,843	495	391

AVERAGE WEEKLY PROFIT PER OCCUPIED ROOM = 3s. 10d.

EXAMPLES OF GREATEST AND LEAST WEEKLY PROFIT PER OCCUPIED ROOM.

Size of House	Ward	GREATEST PROFIT (PER OCCUPIED ROOM)			Ward	LEAST PROFIT (PER OCCUPIED ROOM)		
		Amount	* Rooms			Amount	* Rooms	
			F.	U.			F.	U.
		s. d.				s. d.		
10 Rooms ..	Miles Platting	7 1	10	..	St. Clement's	4 1	9	1
8 Rooms ..	Ardwick	7 5	7	1	St. Luke's	2 3	5	3
6 Rooms ..	St. Michael's	9 3	6	..	Moss Side East	1 3	..	6
4 Rooms ..	St. Michael's	8 9	4	..	Ardwick	0 9	2	2
2 Rooms ..	Collyhurst	6 1½	2	..	New Cross	1 9	2	..

* F—Furnished. U—Unfurnished.

March 27th, 1933.

MANCHESTER COMMITTEE ON CANCER.

REPORT FOR 1932-1933.

MEMBERS OF THE COMMITTEE.

President	The Rt. Hon. THE LORD MAYOR OF THE CITY OF MANCHESTER.
Chairman	Dr. R. VEITCH CLARK, Medical Officer of Health.
Hon. Treasurer	R. NOTON BARCLAY, Esq., J.P., 35, Whitworth Street West, Manchester, 1.
Hon. Auditor	VERNON WALKER, Esq., F.C.A.

Mr. E. K. Agnew	Manchester and Salford Hospital for Skin Diseases.
Mr. W. Armitage, J.P.	Radium Institute.
Prof. S. L. Baker	Professor of Pathology, Manchester University.
*Dr. E. M. Brockbank, M.B.E. (Chairman—Research Sub-Com.)	Chairman, Manchester Group Executive, British Empire Cancer Campaign.
*Mr. G. A. Carver	Ancoats Hospital.
*Dr. Catherine Chisholm	Northern Hospital for Women and Children.
Dr. H. R. Clarke	Manchester Victoria Memorial Jewish Hospital.
*Mr. H. O. Clayton	Assoc. Inst. Petroleum Technologists.
Mr. Walter Cobbett, C.B.E.	Manchester Royal Infirmary.
†Mr. W. Davies, C.B.E., J.P.	Chairman, Manchester Insurance Committee.
†Dr. D. Dougal, M.C.	St. Mary's Hospital for Women and Children.
Dr. A. E. Dunstan	Institution of Petroleum Technologists.
Councillor R. G. Edwards	Chairman, Public Health Committee.
Dr. G. W. Fitzgerald, O.B.E.	Northern Hospital for Women and Children.
Dr. M. Gamble, M.B.E.	Withington Hospital and Institution.
Dr. F. H. Garner	Institution of Petroleum Technologists.
†Mr. H. W. Garnett	Formerly Trustee Pilkington Cancer Research Fund.
Alderman R. S. Harper	Public Health Committee.
*Mr. W. H. Hey, F.R.C.S.	Christie Cancer Hospital.
Sir Edward Holt, Bart.	Manchester Royal Infirmary.
Mr. E. E. Hughes, F.R.C.S.	Ancoats Hospital.
*Alderman W. T. Jackson, M.A., J.P.	Public Health Committee.
Mr. J. Kewley	Institution of Petroleum Technologists.
‡Professor A. Lapworth, F.R.S.	Professor of Chemistry, Manchester University.

Members of the Committee - *continued.*

Mr. R. G. Lawson	Christie Cancer Hospital.
†Dr. E. Bosdin Leech, F.R.C.P.	Manchester Royal Infirmary.
Dr. R. G. McGowan	Secretary, Manchester Branch B.M.A.
‡Professor H. B. Maitland	Professor of Bacteriology, Manchester University.
*Dr. R. W. Marsden	
†Dr. W. St.C.McClure	Deputy M.O.H., Manchester.
*Sir W. H. Moberly, D.S.O., M.A., D.LITT.	Vice-Chancellor, Manchester University.
*Mr. F. P. Nathan, O.B.E., M.A. (Chairman—Executive Sub-Com.)	Christie Cancer Hospital.
Dr. Ralston Paterson	Director, Holt Radium Institute, Manchester.
Mrs. D. Quas-Cohen	Manchester Victoria Memorial Jewish Hospital.
‡Professor H. S. Raper, F.R.S.	Dean, Faculty of Medicine, Manchester University.
*Mr. L. L. Samuels, F.C.A.	Manchester Group Executive, Cancer Campaign.
Dr. L. Savatard	Manchester and Salford Hospital for Skin Diseases.
*Dr. W. Fletcher Shaw	St. Mary's Hospital for Women and Children.
†Mr. A. H. Southam, F.R.C.S.	Manchester Royal Infirmary.
*Professor J. S. B. Stopford, F.R.S.	Professor of Anatomy, Manchester University.
†Mr. T. Stott, J.P.	Christie Cancer Hospital.
†Dr. A. Corsar Sturrock	Northern Hospital for Women and Children.
Mr. E. D. Telford, F.R.C.S.	Manchester Royal Infirmary.
Mr. A. H. Worthington, LL.D.	Chairman of the Council, Manchester University.

*Members of Executive Committee.

†Co-opted members not specifically to represent body which is shown opposite their names.

‡Co-opted members of Research Sub-Committee.

CONSULTATIVE COMMITTEE ON CANCER RESEARCH.

Representing the Manchester Committee on Cancer—

*Dr. E. M. Brockbank, F.R.C.P. (Chairman, Scientific Research Sub-Committee)
*Dr. R. Veitch Clark.
*Mr. Wilson H. Hey, F.R.C.S.
Sir Edward Holt, Bart.—Nominated by the Radium Institute.
Mr. F. P. Nathan, O.B.E.—Nominated by the Christie Hospital.
*Dr. Ralston Paterson.

Representing the University—

The Vice-Chancellor—Sir W. H. Moberly.
*Professor S. L. Baker, M.R.C.S., L.R.C.P., D.P.H.
*Professor H. B. Maitland, M.D., M.SC.
*Professor H. S. Raper, M.D., D.SC., F.R.S.
*Professor J. S. B. Stopford, M.D., F.R.S.
Sir Christopher Needham.

*Members of Scientific Research Sub-Committee.

Co-opted members of Scientific Research Sub-Committee—

Professor Bragg, f.r.s.
Professor I. M. Heilbron.
Professor A. Lapworth, d.sc., f.r.s.

SCIENTIFIC STAFF.

C. C. Twort, m.d.	Pathologist (Director, Cancer Research Laboratory).
A. C. Bottomley, ph.d. ..	Chemist.
J. M. Twort, b.sc.	Zoologist.
R. Lyth, m.sc., dp. bact. (Manchester) ..	Bacteriologist Assistant.
K. Cheetham, b.sc.	Chemical Assistant.
J. Vine, m.b., ch.b.	Pilkington Research Scholar.

In receipt of research grant :—

H. M. Parker, m.sc.	Physicist, Holt Radium Institute.
D. R. Goodfellow, m.r.c.s., l.r.c.p.	Research Hæmatologist, Holt Radium Institute.

The Manchester Committee on Cancer present in this report a statement covering two years' work in so far as the details of certain investigations are concerned, but consisting principally of an account covering in concise form the main object of the Committee's existence, *i.e.*, research into possible means of prevention of mule–spinners' cancer. No report was published last year, inasmuch as at the time when the report normally would have appeared the work in this direction had reached a crucial point, and it was considered desirable to withhold a published statement until definite conclusions could be drawn. These results have now been attained, and in this preliminary statement to the main report the Committee wish to make it clear that the object of the research has been in its fundamental aim attained with a degree of success which had scarcely been hoped for. In the report will be found in more detail the results referred to, but it is desirable that we should here make it clear that we are now in a position to advise the cotton industry and other industries using mineral lubricating oils as to which oils are relatively safe and which are unsafe in so far as their cancer-producing properties are concerned. In other words, we are in a position to lay down a specification for a lubricating mineral oil which, from the results of our research work, has been shown to be practically free from cancer-producing properties. We are assured that lubricating oils can be produced on commercial lines within the limits of the specification.

The Committee desire to take this opportunity of recording their great appreciation of the untiring work and devotion exhibited in this research by Dr. C. C. Twort, the Director of the Cancer Research Laboratory, and all the scientific and lay staff. Without their expert knowledge and untiring zeal the Committee could not have recorded this successful issue, and it is to them that is to be ascribed the prime credit of the attainment of what is the first real preventive work in cancer research capable of practical application in daily life.

Formation and Constitution of the Committee.

The Committee was originally formed following upon the publication of the earlier memoranda by the Ministry of Health upon cancer, and the lines of action which were suggested in these memoranda to local health authorities and the publication of the report of the departmental committee (Home Office) on mule-spinners' cancer. The Committee in its constitution has throughout been representative of the Public Health Committee and of the hospitals and interests in the City concerned with work on cancer. The Medical Officer of Health has been Chairman of the Committee since its inception. In so far as the research work instituted by the Committee is concerned it was in the earlier years (while carried out in the University by the permission of the University authorities) solely administered by the Manchester Committee on Cancer. Since 1930, however, this research unit has been definitely under the supervisory control of a University Consultative Committee on Cancer, which is similarly representative of the afore-mentioned bodies. This consultative committee has conducted the affairs of the research laboratories as an essential unit of the University's work. The work has nevertheless been essentially the same as that initiated and first carried out by the Manchester Committee on Cancer, and by far the greater proportion of the cost of maintenance is still met by the Manchester Committee, the change in the administrative control having been arranged so that the unit should have a more distinct standing as an essential part of the scientific work of the University, with the advantages which accrue naturally from that standing.

Funds.

The financial resources of the Committee were obtained in the first instance by a special local appeal in Manchester which brought in approximately £11,000. Later the Committee benefited to the extent of just over £20,000 from the general appeal made in Lancashire, Cheshire, and North Wales in conjunction with the British Empire Cancer Campaign. It is important to acknowledge also the financial and other material support which the Committee have received from the great oil companies—Anglo-Persian, Anglo-American, and Shell Mex. Direct financial support has also been received from the Christie Hospital and Holt Radium Institute and the University.

Work Done by the Committee.

In each annual report there has been given an account of the work done in the corresponding year and it is unnecessary to recapitulate that here, beyond reminding our supporters that—in addition to the research work, which is the main subject of this report—there have been published many contributions to literature on many of the issues investigated in our laboratory work, upon the relationships of early and late treatment to successful result in certain forms of cancer; that the Committee has, largely by its personnel, contributed greatly to the spread of public knowledge on this disease, and in many other ways helped to a better conception by the people of their attitude and reaction to the incidence of cancer.

Object of Research Laboratory Work.

The chief object has been the study of the problem of the causes and prevention of industrial cancer as it occurs in workers who are in daily contact with mineral lubricating oils and tars, and especially that form of the disease known as mule-spinners' cancer which occurs solely amongst the operatives in the cotton spinning mills of Lancashire, Cheshire, and the neighbourhood.

The unusual incidence of cancer amongst mule-spinners began to be noticed about 1908, and again was brought under prominent notice by the work of two Manchester surgeons just after the war. Serious concern was caused in the cotton industry. This led the Home Office to appoint a special committee of investigation in 1925; the committee reported in 1926. In their report they confirmed the view that mineral oil was the cause of this special form of cancer, and collected from the Registrar-General's returns to show that the death rate from this cancer in cotton operatives as compared to a mean national death rate of 4 per million living males was 134 in cotton spinners and 72 in cotton workers undefined. These figures do not, of course, refer to cancer generally but only to this particular form of cancer. One of the recommendations of the Home Office was "the institution of experimental research into oils with a view to finding the oils which are innocuous and at the same time suitable as lubricants." This the Manchester Committee on Cancer set out to do, and although previous workers had produced cancer experimentally by the application of tar and mineral oil, our scientists were the first to examine the problem from the point of view of prevention.

The Home Office Committee said: "The solution of this problem—which is an exceedingly difficult one—will be found only by prolonged experimental research," and commented further on their inability to offer any advice without such research on the subject of an immediate remedy for the trouble. That the research has been prolonged is evidenced by the fact that the Manchester cancer research unit under Dr. Twort has spent fully seven years on this one problem. The magnitude of the work done it is hardly possible to depict with any realism, excepting to say that, in all, over 900 complete fundamental experiments have been carried out with the additional subsidiary investigations. Many of these experiments have lasted individually over 12 months. Every investigation involves daily examination of results, and the total number of such observations exceeds 12,000,000. These figures are given solely with the desire to convey to our readers not only the assiduity with which the work has been pursued but the completeness and thoroughness which has characterised the whole of the investigation. Emphasis is laid on this point, inasmuch as the Committee (which includes many distinguished scientists in its personnel) is satisfied that the conclusions are based upon soundly ascertained fact and should be received by the public as reliable and trustworthy.

These investigations have now reached a stage when a general statement of the very practical conclusions reached for the prevention of cancer due to mineral oil should be clearly laid before all concerned in the welfare of persons habitually exposed to contact with this substance. The report of the scientific staff is appended, but it is advisable to summarise the conclusions here :—

(1) A standard specification based upon physical characteristics has been devised for mineral lubricating oils, which, if adopted in the cotton industry and for the lubrication of machinery in general, should reduce the risk of cancer in workmen to a minimum.

(2) The principal cancerous conditions of the skin, which frequently arise as the first indication of danger, should now be practically entirely prevented by the use of precautionary measures based upon the work of the scientific staff of our laboratory.

(3) Investigation is now proceeding with the object of devising means of protection of workers against the carcinogenic action of tars. This has not yet reached a stage where conclusions can be made public, but the work is promising so far.

Other Workers in the Cancer Laboratories and Work Subsidised by the Committee.

Dr. J. Vine is working in the laboratories on the culture of the tissue of mice with the aid of a grant from the Pilkington Research Fund.

We have also with us, as an Honorary Research Fellow, Dr. A. Lasnitzki, from the Cancer Institute, Berlin. He is, among other things, making a special study of the effect of diet on the incidence of cancer.

Dr. Bottomley now has the assistance of Mr. K. Cheetham, B.Sc.

SPECIAL GRANTS.

(1) A grant of £100 for one year was made to Dr. David R. Goodfellow to enable him to investigate the effect of radium on the blood of cancer patients and radium workers. This work is being carried out at the Manchester Royal Infirmary, Christie Hospital, and Holt Radium Institute. As the work proved to be of practical value it was deemed necessary to continue it for a further twelve months and the grant was therefore renewed for this period. It is acknowledged that the investigation deals with a problem which has not been worked out successfully at any other Centre.

(2) An application was received from the Holt Radium Institute for a grant to enable a physicist to be appointed to work upon the physical basis of radium values. Such work is obviously essential to the successful prosecution of radium therapy. The Manchester Committee on Cancer has therefore made a grant of £225 for one year for such a Fellowship to be attached to the Radium Institute. Mr. H. M. Parker, M.Sc. (Hon. Phys.) was appointed in October, 1932, at a salary of £150, the remaining £75 being allocated for special materials and study expenses. During the year Mr. Parker visited, for purposes of study, the radium centres in London, Stockholm, Hamburg, Brussels, and Paris. Mr. Parker has been concerned mainly with the problem of the distribution of radium to produce homogenous radiation of measurable intensity over any stated surface or volume. The work has been successful in the case of surfaces and extremely useful charts and rules have been constructed. Considerable work has been done on the irriadiation of volumes but it has not yet been possible to reduce this to a simple system for clinical use.

The Committee felt that the importance of success of the work justified the continuance of the grant for a further 12 months. The sum of £225 was allocated for salary and £30 for apparatus and materials for the current year.

REPORT BY DR. C. C. TWORT
(Director of Cancer Research Laboratories).

Selection of Carcinogenic from Non-Carcinogenic Mineral Oils.

The primary object of the investigations on cancer commenced some seven years ago was to find out, if possible, the degree of carcinogenicity of mineral oils used in the textile industry. The ultimate object was to discover a test whereby the non-carcinogenic oils could be differentiated from the carcinogenic, and consequently advice could be given to users as to what oils they should select for the lubrication of their machinery. We are now in the happy position of stating that we have, in the main, reached our objectives.

In the first place we found, as stated in previous reports, that some mineral oils are very much more carcinogenic than others, but that all of them, other than white oils (such as medicinal liquid paraffin, etc., and the lighter boiling spirits) have to be viewed as potentially carcinogenic. We next endeavoured to group the oils according to the degree of carcinogenicity and it was found that the textile oils were, on the whole, the most carcinogenic, being considerably more so, for instance, than the relatively heavier grade internal-combustion engine oils. However, amongst the textile oils there was still considerable variation, and it was felt that the discrepancies might be in part due to difference in animal susceptibility. The animal test is, of necessity, a lengthy, laborious, and expensive process and one not possible for general use. In order to overcome these difficulties we have investigated the chemical and physical characteristics of the oils and thereby we obtained results which have proved to be of the greatest utility. Among the different investigations which we have made, those on the refractive index and the specific gravity proved of the greatest value, and the correlation of these two tests on a series of oils already subjected to animal test showed that we had here a method which should allow us possibly to dispense altogether with animals. It is not to be supposed that we do not meet with some discrepancies, but, viewing the matter from its broadest aspect, we are of opinion that it is not now necessary in most cases to test a sample of oil on animals but that we can recommend or condemn a sample on its physical tests alone. In order to give an idea of the degree of accuracy of our results we have tabulated 100 samples of mineral oils grouped according to their physical characteristics with the resulting carcinogenic potency as recorded by animal test. A scrutiny of this table will suffice to indicate to those interested that there is a remarkable correlation between the carcinogenicity of the oils and the refractivity constants.

TABLE I.

Number of Samples	Refracticity	Carcinogenic Potency
7	Below 5500	0·3
14	5500—5520	8·5
7	5520—5540	12
16	5540—5550	23
16	5550—5560	49
14	5560—5570	65
3	5570—5610	88
5	5610—5620	150
7	5620—5630	186
1	5630—5640	338
10 (gravity below 8500)	....	Less than 1

As stated in our scientific publications, as a rule one country or area of a given country seems to yield oils of greater carcinogenicity than does a second country. This is illustrated in Table II.

TABLE II.

Stated Origin	Potency	
	Mean	Extremes
Russian	5·7	0·1—30
Pennsylvanian	9·7	1—37
Texas	10·5	1—30
Mid-Continental	25·2	11—50
Mexican	37·5	3—89
Californian	39·5	10—96
Roumanian	46·5	44—53
Persian	56·0	42—82
Borneo	81·0	30—150
Venezuelan	117·5	56—177
Scotch Shale	227·0	179—338

We are aware that oils of varying types can be obtained from a single area so that while the samples examined in our laboratory yielded the results here given we must not lay stress on country of origin as a basis of classification of the carcinogenicity of oils.

It is interesting to note that there is also often a definite degree of correlation between the oils of a given country and their refractivity constants. This will be abundantly apparent from a consideration of the figures in Table III.

TABLE III.

Stated Origin	Refractivity	
	Mean	Extremes
Russian	5503	5500—5506
Texas	5510	5507—5517
Californian	5540	5537—5543
Pennsylvanian	5546	5542—5552
Mexican	5549	5544—5555
Venezuelan	5558	5552—5563
Borneo	5560	5535—5617
Mid-Continental	5561	5555—5566
Persian	5565	5563—5569
Roumanian	5570	5568—5573
Shale	5621	5613—5633

We have, in effect, correlation between carcinogenicity and country of origin ; refractivity and country of origin : and carcinogenicity and refractivity, and from our data we feel that we are now in a position to give definite recommendations to those using mineral oils as lubricants in the textile industry, so that their employees may run as little risk as possible of ultimately developing skin cancer from the deleterious effects of the oils.

In order to simplify matters for both the oil supplier and the oil purchaser, and in order meanwhile to allow of as wide a range of oils being utilised as we consider consistent with a reasonable degree of safety, we suggest provisionally that spindle oils should conform as nearly as possible to the following standard :—

> "Mule spindle mineral lubricating oils should have a refractivity below 5520 when the specific gravity is above 985, or a refractivity below 5550 when the specific gravity is below 895."

N.B.—In calculating the refractivity constants the density at 60°F. is used, If density at 20°C. is used the refractivity values are increased by 17, when the above values become 5537 and 5567 respectively, the specific gravity becoming 892 at 20°C. Densities at 60°F. were used because these values were calculated from the observed specific gravities at 60°F., the standard commercial temperature.

Lanolin Treatment as a Prophylactic against Industrial Cancers, etc.

Mineral Oils.—In previous reports we have mentioned experiments dealing with the prevention of skin cancer due to mineral oil by the utilisation of a mixture of anhydrous lanolin and olive oil. During recent years we have investigated several other substances with a view to improving upon the lanolin-olive oil mixture, but our results have shown clearly that in almost all instances the lanolin-olive oil preparation has given a greater degree of protection than the other substances. As a matter of fact, in view of the highly beneficial results in actual practice by workmen who have endeavoured to protect themselves by utilisation of the lanolin-olive oil mixture, it seems hardly necessary to search for a more efficient remedy. We are of opinion, so far as industrial cancer and dermatitis due to mineral oil are concerned, that, with the lanolin treatment combined with judicious selection of lubricating oils as recommended by us, the incidence of such cancers should fall to a very low figure indeed, probably not greater than that of the general population.

The following reports, received from the medical officer of a leading oil company, show efficiently the results obtained in a practical use of this preventive treatment:—

18th January, 1932.

> "The general condition of both recent and old employees is greatly improved, and I am satisfied that the result of treatment with lanolin and olive oil has been most beneficial.
>
> All the recent employees with the exception of C——— are now free from paraffin eruptions. The general appearance of skin of arms and legs is most satisfactory. The men are greatly pleased with the result. The older employees show noteworthy improvement, the wartiness is less prevalent and the dryness and scaliness of the skin are not so marked."

11th July, 1933.

> "The general condition of both recent and old employees is greatly improved, and I am satisfied that the result of treatment with lanolin and olive oil continues to be beneficial.
>
> All the recent employees are practically free from paraffin eruptions. The general appearance of skin of arms and legs is most satisfactory. The older employees show improvement, the wartiness is less prevalent and the dryness and scaliness of the skin are not so marked."

Recommendations.—All parts of the body likely to come into contact with the suspected material should, before commencing work, be smeared with a small quantity of an ointment made up of equal parts of anhydrous lanolin and olive oil. The ointment should be thoroughly rubbed into the skin, an excess being avoided. When work is finished the parts should be thoroughly washed with soap and water and carefully dried, a small quantity of the ointment being again rubbed in so that the skin remains soft and pliable. These recommendations are for all those exposed to the deleterious effects (whether the several forms of dermatitis, warts, or cancer of the skin) of mineral oils or their products.

Tar.—While we deem as satisfactory the position as regards mineral oils, and this includes such substances as cleaning spirits and all the lighter boiling substances obtained by distillation of the crude oils, we are not, meanwhile, so happy as regards gas tar and its derivatives. The results obtained in the preventive precautions amongst oil workers naturally interested tar distillers, briquette makers, etc. Our experimental work on the prevention of cancer due to tar has presented difficulties of a different order from investigation into the prevention of oil cancers, inasmuch as in certain circumstances the presence of lanolin mixtures has in fact rather favoured the production of tumours, although as a rule there is a diminution. There is, therefore, a very considerable period of investigation necessary before we can with adequate certainty make a pronouncement upon the best method of protection against tumours due to tars and their derivatives. The need of this continued investigation is paramount, and it is to be hoped that the laboratories will be in a position to maintain the high level of productive work necessary to reach the conclusion hoped for.

Other Work carried out in the Laboratories on Factors connected with the Incidence of Cancer.

It is generally accepted that there are two main aspects of the problem of the ætiology of cancer—the extrinsic and the intrinsic. In so far as our special investigations are concerned the extrinsic factors have been the mineral oils and tars. During the progress of this work, however, of necessity we have examined very carefully many other conditions which our experimental work has brought to our notice. It is obvious that in the animal body many changes or qualities are associated with the varying incidence of cancer, and numerous contributions have been made to scientific journals on such subjects as :—

(*a*) a relationship of the incidence of cancer to the degree of pigmentation of the individual (deeply pigmented—browns; fairer pigmentation—reds and blonds and albinos) ;

(*b*) the relationship of sex to cancer incidence ;

(*c*) the inter-relationship of body weight to (*a*) and (*b*) in connection with cancer incidence ;

(*d*) the changes in the various organs of the body which are associated with occurrence of susceptibility or resistance to cancer.

This group of observations is of very great extent and is of equally great importance in the general consideration of the causes or factors which underlie the occurrence of all forms of cancer in man.

It is obviously not practicable to discuss here in any detail those various groups of investigations, but reference is made to them in this report so that the lay public may appreciate the wide field of research and observation which the specific enquiry into mule-spinners' cancer has opened, and also the great need for further prosecution of the lines of investigation thus revealed.

25th October, 1934.

A complete list of the publications of the Manchester Committee on Cancer since its inception may be seen in the report of that Committee for the years 1932-33.

INDEX.

PAGE
Abergele Sanatorium 84, 85
Abergele Sanatorium, Report of Medical Superintendent 134–161
    Adult Section 140–145
    Children's Section 146–158
Adulteration of Food and Drugs 244–250
Air Pollution—See Smoke ....
Ambulance Station 242
Anthrax 55
Antitoxin 31
Area of City and wards in acres.. 1, 21
Artificial Sunlight 198
Babies' Hospital.............. 219
Babies' Ward 126
Bacteriological Examinations 43, 109, 131
Baguley Sanatorium..... 84, 85, 91, 92
Baguley Sanatorium—Report of Medical Superintendent.... 162–170
Bakehouses 250
Births.................. 1, 19, 21, 22
,, Act, Notification of.... 214
,, Illegitimate 22
,, and Birth-rates in Wards 21
Birth-rates 1, 19, 21
Blind, Welfare of............235–238
Booth Hall Hospital..103–108, 111–112
Canal Boats 281
Cancer, Special Report on..... 321
Caravans 264
Cerebro-Spinal Fever...24, 40, 124–125
Chickenpox 24, 25
Childbirth, deaths at..... 20, 179–185
Child Welfare Centres........197–209
Cleansing Department, Work of 301–304
Clearance Areas 252
Closets, number of 270
Consumption 68–92
Convalescent Homes 99
Conveniences, Public 271, 288–290
Crossley Sanatorium 84,85, 91
Crumpsall Hospital.. 103–108, 110–111
,, ,, paying beds 99
,, Institution 103–108
Crumpsall Hospital Pathological Laboratory 109
Deaths, various causes........ 12–15
,, in public institutions.. 1, 5
,, and Death-rates in Wards 21
,, certified by Inquest... 23
,, Legitimate and Illegitimate 22

PAGE
Deaths, Certified by Medical Practitioners 23
,, from various causes for 6 years 5
,, from infectious diseases for 11 years........ 25
,, males 1, 16
,, females 1, 17
,, in infancy 18
,, in childhood 18, 22
,, under 1 year of age per 1,000 births..1, 7, 8, 19, 22
,, uncertified 23
,, and Births, natural rate of increase 21
Death-rates 1, 5, 19–23
,, gains and losses... 6
,, male and female.. 1
,, in the homes of the people and in institutions....1, 5, 19
,, in Wards 21, 22, 23
,, specified causes 5, 8, 19, 20
Delamere Sanatorium......84, 85, 91
Density of population......... 1, 21
Diarrhœa 8, 49, 216
Diphtheria 8, 24, 29–36, 48, 116–120, 204
,, attacks, in weeks 33
,, ,, in age groups 34
,, ,, in Wards.. 35
,, carriers 30
,, contacts 30
,, Immunisation 31, 32, 120, 204
,, "Schick" test 31, 32
,, Virulence tests 30, 31
,, bacteriological examinations....43, 131
Disinfected articles 243
Disinfecting Station........... 242
Disinfestation Cyanide 260
District Medical Service 102
Drainage 270
Dysentery 24, 55
Education—Public Health ...238–242
Encephalitis Lethargica......24, 41–42
Enteric Fever 24, 36–39, 120–121
,, attacks and deaths 38
,, bacteriological examinations ... 43
,, attacks, in weeks 39

INDEX—*continued*

Page

Erysipelas 24, 121
Estimated population 1, 19, 21
Excess of births over deaths 1
Exhumations 282

Fabrics (Misdescription) Act 283
Factory and Workshop Act, 1901—Summary of work by Inspectors 273
Farms 60, 62, 63
Fever, Scarlet 24–28, 48, 113–116
,, Enteric 24, 36–39, 120–121
,, Puerperal and Pyrexia 20, 24, 132–133, 180–185
,, Cerebro-Spinal 24, 40, 124
Fish, etc., unwholesome 57–59
Food Poisoning 55
Food, preservatives in 244
Food and Drugs and Margarine Acts 244–250
Food Supervision 244–250

German Measles and Measles, 24, 44–46, 48, 122, 221

Health Visitors 214–229
  Infantile mortality 1, 7, 8, 19, 22
  Cleansing of verminous children 224
  Jewish Health Visitors 225
  Notification of Births Act 214
  Yearly Summary 228a
  Home Helps 209
Homes of the people, death-rates in 5
Hospitals, General Survey 93–108
,, Total Beds 104–107
Hospitals, death-rate 1, 5, 19
Hospital Maintenance—Recovery of Costs 99
Hostels, municipal 264
Houses "Farmed" 263
,, ,, Special Report 317–320
Houses let in lodgings 262
Housing 1, 252–270
Housing Conditions (Statistics) 269
Hulme Clearance Order 258

Ice Cream 61, 65
Illegitimacy and mortality 22
Immunisation—Diphtheria 31, 32, 120, 204
,, Community 31
Infirm and Diseased Persons, removal of 281
Infant Life Protection 211

Page

Infant Life:—
  Work of the Health Visitors, 214–229
Infantile mortality 1, 7, 8, 19, 22
Infectious diseases 24
,, ,, consultations 25
Influenza 50–52
Inquests 19, 23
Inspectors, special summary of work 284
Institution death-rates 1, 5, 19
Institutions—Number of beds 104–107
,, General Survey 94–108
Investigators, work of 210

Jewish Health Visitors 225

Langho Colony 103–106, 107–108

Malaria 24, 55
Markets Department, work of 57–59
Market Places open 278
Marriage rate 1, 19
Massage at Centres 198
Maternity beds 209
Maternity and Child Welfare 170–213
Maternity Homes and Hospitals 212
Maternal mortality 20, 179–185
Measles and German Measles, 24, 44–46, 48, 122, 221
Meat Regulations 56
Meat, etc., unwholesome 57–59
Meteorological data 4
Middens 271
Midwives Acts, 1902–1926, Report of Executive Officer 170–213
Milk Control and Veterinary 60–67
Milk, Hospitals supply 61–62
Milk and Tuberculosis 43, 66–67
Milk (Mothers and Children) Order, 1918, etc. 210
Milkshops 61
Milk Licences issued in 1933 64
Monsall Fever Hospital—
  Report of Medical Superintendent 113–133
  Aural Report 127–128
  Bed Isolation Ward 129–130
  Laboratory Report 131
  Nursing Staff Illness 132
  Post-Mortem Examinations 127
  Return Cases 114
  Report of Puerperal Sepsis, 132–133
  Report of "Schick" and "Dick" test 120

INDEX—*continued*

PAGE

Mortality, infantile......1, 7, 8, 19, 22
,, comparison in Wards..21–23

Neo-Natal Deaths 187
Notification of infectious diseases.................... 24
Notification of Births Act...... 214
Nursing Homes Registration Act, 1927 212
Nurseries, Day 204

Offensive trades 278–279
Ophthalmia Neonatorum.. 24, 189–196
Outworkers 274

Pail-closets.................. 271
Paratyphoid Fever ...24, 36–39, 120
Pemphigus Neonatorum...24, 187–188
Persons to an acre 1, 21
Persons infirm, etc., removal of 281
Persons per house 1
Phthisis 68–92
Pneumonia.............24, 52–54, 221
Poisons and Pharmacy Act.... 283
Polio-encephalitis 24
Poliomyelitis, Acute Anterior.. 24, 41
Poor Law Relief 10
Population, census 1
,, estimates of.... 1, 19, 21
,, in Wards 21
,, natural increase of.. 1, 21
,, density of......... 1, 21
Pre-Maternity Centres........197–208
Preservatives in Food......... 248
Public Assistance 9, 10
Public institutions, deaths in 1, 5, 19
Public Health Officers 2–3
Public Vaccinators and Vaccination Officers 101–102
Puerperal Fever......20, 24, 132–133 180–185
,, Pyrexia........24, 180–185

Rag Flock Act (1911) 282
Rats and Mice (Destruction) Act 292–300
Recorded death-rates........1, 19–21
Records calling in Medical aid.. 174
Refuse, disposal of 301
Relief, Poor Law, etc. 10
Rent Restriction Acts 265
Rickets 218

PAGE

Rose Hill Convalescent Home..103–106

Sanitary Department, work of 244 *et. seq.*
Scabies 224
Scarlet Fever 24–28, 48, 113–116
,, immunisation....116–120
,, in quarters 25
,, attacks in Wards...... 26
,, attacks and deaths.... 27
,, attacks, in weeks..... 28
,, "Return"cases........ 28, 114
"Schick" test 32
Shops Acts and Orders 276
Smallpox 24, 25
Smoke Abatement (Regional Committee Report) 306
Smoke........................ 272
Special Inspectors, work of.... 291
Special reports ....305, *et. seq.*
Stables 280
Staff, Public Health Department 2, 3
Statistical summary 1, 5–8
Stillbirths 1, 170, 216
Sunlight, artificial 198
,, Home for Blind Babies 196
Swinton Home 103–106

Tables, Vital Statistics 12–23
Tips.......................... 297
Tuberculosis of the Lungs 68–92
  Bacteriological examinations 43
  Notifications 68–81
  Dispensary 82
  Cases treated in—
    (*a*) Abergele Sanatorium— 84–85, 134–161
    (*b*) Baguley Sanatorium— 84–85, 91–92, 162–170
    (*c*) Delamere Sanatorium— 84–85, 91–92
    (*d*) Other Institutions 76, 77
Tuberculosis and milk 43, 60–67
Typhoid Fever—see Enteric Fever..........24, 36–39, 120–121
Typhus Fever 24

INDEX—*continued.*

	Page
Uncertified deaths	23
Undulant Fever	40
Unwholesome foods	57–59
Vaccination	101–102
Van Dwellers	264
Venereal Diseases	230–234
Venereal Diseases, Special Report	308–316
Verminous cleansing	224

	Page
Veterinary and milk control	60–67
Virulence tests	31
Water closets	270
Whooping Cough	46–48, 123
Withington Hospital	84, 85, 103–108
,, ,, paying beds	99
,, Institution	103–108
Workshops	273